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Social Media for Social Inclusion of Youth at Risk

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Remark

This Proceedings document constitutes also Incluso Magazine issue 4.
Earlier issues can be downloaded from http://www.incluso.org/magazine.

Introduction

Computers and Internet communication have become omnipresent in today's society. Social software sites such as Facebook, Netlog and Twitter are well known and are frequently used by millions of people for the development of their social contacts.
In the recent past, educators (and governments!) have rightly questioned the impact of these online social networks. Potential adverse effects of identity abuse and distribution of illegal content are frequently reported in studies and seminars, especially when young people from a difficult background are involved.

However, the use of this social software also offers opportunities. Social software can diversify the network of young people, help them to acquire autonomy, contribute to increasing their positive self-image, finding job opportunities, etc.

Over the last two years, nine European partners, both technical experts and educational experts, have studied how to work with these social online networks in the framework of the European INCLUSO project (http://www.incluso.org) and within various practical environments of disadvantaged young people.

On behalf of the INCLUSO partnership and with support of the European Union, the Katholieke Universiteit Leuven (Belgium), coordinator of the Incluso project, along with the Katholieke Hogeschool Kempen (Geel) and University College Mechelen, organised on 13 and 14 September 2010 a two-day conference in Leuven on the subject of **e-Inclusion of Youth at Risk.**

At INCLUSO-2010, contributors from different backgrounds brought in their experiences and compared them with the conclusions from other scientific and educational institutions. Four more European projects focusing on youth at risk (Replay, ComeIn, Umsic and Hands) have been researching and developing the positive aspects of ICT use by young people and also made their conclusions available at INCLUSO-2010. Furthermore all five projects have used this opportunity to finalise a common note on future research issues and related policy measures in the field of ICT use by Youth at Risk.

INCLUSO-2010 enabled a fascinating encounter between European field workers in this domain.

Their contributions can be found in this book. We wish you an interesting read, taking into account that this book can only provide a snapshot of the current situation in Europe.

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INCLUSO: Social Software for the Social Inclusion of Marginalised Youth

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Abstract. Can ICT, and more specifically social software, support the social inclusion of marginalised youngsters? What is the role of welfare organisations working with such youngsters in this story and what are the main challenges that need to be overcome when using social software as a tool to aleviate social exclusion? This paper reports findings from the INCLUSO project and pilot projects in 4 partner organisations throughout Europe and presents tools to assist social work organisations in defining succesful strategies for adopting ICT and social software within their organisation.

Keywords: ICT, Social Software, Social Inclusion, Youth at Risk, Marginalised Youth

1 Introduction

Can ICT, and more specifically social software, support the social inclusion of marginalised youngsters? This was the main research question of INCLUSO, a research project funded by the European Commission's 7th Framework programme. The project aimed to define and explore the challenges and opportunities met when social software is used by welfare organisations that work with marginalised youngsters as a tool to support their approach on alleviating social exclusion.

Even though the scope of the INCLUSO project also incorporated a focus on the business and sustainability side of ICT use by organisations working with marginalised youth, our focus was rather technological at the start of the project in 2008. The project's consortium was keen on exploring and measuring the precise effects of the use of social software applications such as social network sites (SNS) by marginalised youngsters and the organisations that work with them.

It soon turned out however, that the actual adoption process of these ICT tools by our target organisations would pose much different challenges than we had anticipated. Many of the social work organisations we talked to, including those that were part of our project consortium had little or no experience with the use of ICT

and social software in specific to interact with their target groups. Instead of technological, most of the questions raised were organisational. How could existing methods to work with a target group be successfully complemented by online activities? Could this be a spontaneous, bottom-up process or would it need to be fully embedded within the structure and strategy of an organisation? What would this mean in terms of cost and training of staff? What about the equipment needed? What about the privacy of both the youngsters as well as the social workers? How could success be measured over time?

These and other questions made us realise that the scope of this project would grow much wider than just finding the right technology and implementing it.

2 Social Inclusion and Social Exclusion

Promoting social inclusion, or undertaking affirmative actions in order to reverse the social exclusion of individuals and groups in our society, has become a strong focus of the European Commission over the past years. More and more coordinated actions are being taken on a variety of levels in order to make sure that every European citizen is able to contribute to and benefit from social and economical progress.

Describing the concept of social exclusion in full is a daunting task that goes beyond the scope of this paper. Yet it is worth noting that even though many initiatives aimed at alleviating social exclusion focus on creating jobs, social exclusion goes beyond the issue of material poverty and can be seen as a multidimensional concept [1,2]. It can be seen as encompassing other forms of social disadvantages such as lack of regular and equal access to education, health care, social care and housing. Causes for exclusion too encompass a wide range of reasons why individuals or groups might be excluded, such as discrimination against immigrants, ethnic minorities, the disabled, the elderly or ex-offenders [3]. In short one can be socially excluded in a multitude of ways, for a multitude of reasons.

Although the grounds for social exclusion of adults and youngsters are largely the same, it is worthwhile to go deeper into the specific case of the latter. Youngsters find themselves in a crucial stage of their life where one mistake can often be paid for repeatedly, well into adulthood. Personal characteristics such as parental socio-economical status, gender, disability, health, ethnicity, religion, place of residence and geographical mobility are among the factors that may have an impact on future unemployment or low wages. A good education, training, good health and similar productivity enhancing investments during one's younger years will often pay off later in life.

Youngsters today are in need of ample experimentation with their identities and how they see themselves in the future. Yet this experimentation with various identities and rebellion against older generations is less straightforward for those growing up in poorer circles and socio-economically homogenous neighbourhoods [2]. When youth rebellion and experimentation has no constructive outlet, peer group relations can lead youngsters into a negative spiral of social exclusion. Research is increasingly taking neighbourhood effects into account in predicting the individual disadvantage of youth [5]. Too much internal interaction in socio-economically

homogenous neigbourhoods may socially isolate residents and limit information networks [6].

3 e-Inclusion and the digital divide

As more and more information and services are available in digital form today, socially disadvantaged people and those less favoured find themselves at risk of being excluded from the potential benefits of our ever-growing information society.

Even though access to internet is on the rise throughout Europe and it seems that the digital divide is slowly being bridged, we should not forget that those who are most deprived socially are least likely to have access to digital resources such as online services [8], which could result in a 'rich getting richer' scenario, if the issue is not handled properly.

More recent literature makes note of an evolution in the nature of the digital divide. While the digital divide, separating those with access to ICT and the Internet from those without might be narrowing, some researchers have pointed out that the digital divide needs to be seen as encompassing many layers or stages of access to ICT and its adoption [8, 9, 10]. What we do with ICT depends on our skills as well as what we seek from it on a personal level. When observing how those at risk of social exclusion make use of the Internet, we should look beyond skill and training alone, as what people expect, want and 'consume' on the Internet seems to be related to socio-economical status. Research by Bonfadelli (2002) finds that people with lower incomes more often use the internet for entertainment purposes and people with higher income more often for informational and service oriented purposes. Helsper (2008) finds that the 'complexity' of what we do online is connected to one's socio-economical status, with those higher up the ladder of social inclusion using the internet for activities as doing finances or civic engagement. Another study by Valentine et al. [11] finds that students using ICT for educational purposes had higher educational attainment than those using ICT solely for entertainment purposes. In other words, not only access to ICT but especially 'how' we use ICT matters.

4 What we know: Social software and Social Inclusion

4.1 Youngsters and Social Software

Since its conception by social media consultant and writer Clay Shirky in 2002 the term 'Social Software' has been adopted and interpreted by many in different ways. Shirky used the term to encompass all uses of software that supported interacting groups, even if the interaction was offline. Many argue that the term 'social software' is just another way to describe tools that support social interaction between people that already existed for much longer. Tools like e-mail and message boards are decades old, after all.

Then what makes these tools today so different from their predecessors? Boyd argues that as more and more people found their way to the Internet, the classical ways of grouping people online simply around subjects proved less scalable and more sophisticated ways were needed to allow people to find their place online. Just like in the real world, where we do not flock together simply based on a shared interest, we also look for shared cultural values and perspectives on those topics: we try to find those places online where people not only share a similar interest, but also a same taste, way of communicating or style [12]. The internet is not just a repository for information and services anymore, but is also growing, more and more into a virtual representation of the real world; a public space in which we have the need to identify ourselves as well as possible and interact with others in the same nuanced way as we are used to do offline.

For many youngsters throughout the world with regular access to the Internet, social software tools have become a popular way for them to learn to express themselves in public, experiment with different identities under the guise of different pseudonyms and interact with peers [14,15], be it for entertainment purposes (hanging out) or educational purposes. Whereas early studies on the potential of ICT to support social interactions, explored the potential of these platforms to extend the personal network by meeting new people, much of the literature today finds that social software is used especially to stay in touch with people they already know [16-18]. Youngsters use new media as an almost natural extension of offline interactions bridging the gaps between moments of face-to-face contact (friendship-based network interactions).

When youngsters do engage in interactions with people that they do not already know in an offline context, they do so mainly in online communities around specific topics of interest. Interest-based network interactions are worthy of note, because their design seems to encourage social interactions with and new connections to contacts beyond the direct neighbourhood of these youngsters [17].

4.2. Potential Benefits of Social Software

We see the potential of social software as a tool to alleviate the social exclusion of marginalised youngsters as twofold. Firstly, proper use of social software can have beneficial effects on one's social capital [19], increasing the amount of benefits one might gain from having social ties to other people. Many of the benefits we gain from an increase in social capital can be connected to reasons why one might be more or less socially included [20].

The literature on social capital is extensive and many dimensions are introduced. Putnam [21] describes two forms of social capital: bonding and bridging social capital. Bonding social capital, being the benefits we receive by being a part of closely knit networks held together by strong ties, amongst which we find emotional support, financial support and the swift flow of (redundant) information. Bridging social capital encompasses those benefits we receive from being connected to networks outside of our regular networks, usually through people we don't know so well. Granovetter [22,23] elaborates on the notion of bridging social capital by describing the benefits we may gain from the weak ties in our networks and states that

it is especially through these weak ties that we are most likely to gain access to new and useful information or jobs for example. This is especially interesting for the specific case of marginalised young people as a means to lift them out of their socio-economically homogenous network and bring them in touch with others [24].

Aside from the intrinsic effects of social software use we can also look at social software as a way to supplement the approach taken by welfare organisations already working with marginalised youngsters. Certain activities between these organisations and their target groups that are already done offline today could benefit from being supplemented via online as online interactions can be briefer and more efficient due to the fact that participants do not need to participate at the same time or be present at a certain location media [25].

Youngsters in need of help could benefit from working with organisations that employ social software as a tool to interact with them. The online medium is a medium these youngsters often feel at home at. Different studies mention the fact that such tools lower not only the physical barrier for approaching an organisation that could help them (less transport is required) but also the psychological barriers for interacting with welfare organisations in face-to-face contact to the disinhibitive effects of online communication [26].

5 Putting theory to practice: Making new Tools for the Trade

An initial literature study and focus group interviews with youngsters, representatives from organisations in the field and ICT experts yielded a valuable source of information and inspiration regarding the potential use of social software to facilitate the interactions of social work organisations and their younger target groups. In order to connect this theory to the reality of social work we also needed to deliver all of this information in such a way that it would be understandable and useful to the social workers within our 4 partner organisations from Austria, Belgium, Poland and the UK. After all, it was the aim of the INCLUSO project not to just tell these organisations what to do, but to let them decide for themselves instead and merely provide them with the right tools, information and guidance they required to come up with valuable and effective strategies for ICT use within their organisation.

The information and tools needed to be available in such a way that they would be of use for other organisations outside of the scope of the INCLUSO project and serve as sustainable tools upon which could be built further. The pilot projects in the 4 partner organisations would provide us with an evaluation of these tools as well as an insight in which challenges and opportunities these organisations would encounter whilst executing the pilot projects [27]. Best practices on which ICT tools worked best and why (or why not) would be incorporated into a revised version of the INCLUSO project's output as well.

From our work on this project emerged a number of tools which were evaluated, revised and made publicly available near the end of the project: (1) A model connecting the sociological theory to the reality of social work we came to call 'The Big Picture'. (2) A whitebook (now called the Incluso manual) bringing together the knowledge and experience gathered throughout this project and presenting a

methodology for implementing ICT and social software within social work organisations. (3) A measurement tool aimed at measuring the social inclusion of margnalised youngsters and thus measuring the effectiveness of an organisation's ICT supported initiatives over time. (4) A business and sustainability model helping organisations to setup their ICT supported initiatives in such a way that they are sustainable over time. (5) The INCLUSO Game, offering social work organisations a playful, yet inspiring tool that helps these organisations brainstorm about the potential of using social software tools as part of their organisation's strategies. In the next part of this publication, we delve a little deeper into the big picture model (1), the INCLUSO whitebook (2) and INCLUSO Game (5). Both measurement tool (3) and the business and sustainability model (4) are discussed in detail in the INCLUSO whitebook.

5.1 The Big Picture

The multidimensional nature of social exclusion and the fact that the specific face of social exclusion is so different from place to place has led us to conclude that the best approach in this project would be one that places the organisations working with marginalised youngsters in the center of our study. Rather than deciding upon a number of actions from the top down and forcing these organisations and their youngsters to partake in activities we define, we asked our partner organisations to look at their current activities and defined, together with them, different strategies to support these activities via a wide range of different social software tools.

To help us connect these actions to how they contribute to social inclusion and to enable us to better evaluate and compare the different actions undertaken in the 4 partner countries, we constructed the model shown in figure 1 based on our literature study and focus group interviews.

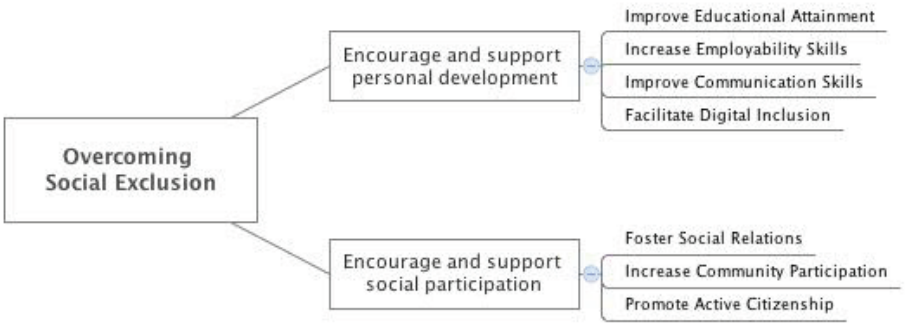

Figure 1 - Aligning the pilot actions with the theory on overcoming social exclusion

Activities towards alleviating social exclusion of marginalised youth within most welfare organisations can be placed within this model. The model also connects well with strategies on social inclusion as defined by the EU [4]. By employing different social software tools in a variety of activities placed within this model, we

aimed to create the basis for a useful matrix that can assist in defining which tools can best be implemented for which purpose and what the critical success factors are for their use in that particular case.

5.2 The INCLUSO Whitebook and INCLUSO Game

The purpose of the INCLUSO Whitebook (recently renamed as INCLUSO Manual) is to support organisations working with youth at risk and interested in integrating social media into daily practice. The whitebook is one of the tools that are part of the INCLUSO and focuses on the organisational perspective of using ICT within social work organisations. It presents a manual that helps the introduction of social media into the practice of youth work, taking into account the boundaries and opportunities of the organisation and lining up with the organisational goals. It was built up from desk research and the experience in the 4 INCLUSO pilot projects. In it, we start from the fact that social media tools like Netlog, Facebook, Ning or chatboxes are widely spread and have become part of young people's lives. On the other hand, social work organisations working with young people are often not very familiar with the possibilities that these new tools can bring into their daily practice. There is often even some hostility and fear that nothing but trouble will come out of this.

We push the idea forward that the use of social media can be used as a tool to support social inclusion of youth at risk if precautions are taken to limit possible negative aspects. By tapping into the aspirations of young people, new forms of communication can guide them to expand and diversify their networks to their benefit, to develop skills and interests and give them self-esteem.

The Whitebook is divided into 4 major parts: (1) How to Set Up a Project, (2) How to Run a Project (How to Engage with Young People), (3) Examples of What You Can Do and (4) Project Sustainability.

The first two parts talk about goals, organisation readiness and how to choose the right activities and related tools. To support this first step, a card game was developed.

The INCLUSO game was inspired by the 'Social by Social' game that was developed by David Wilcox, Amy Sample Ward and Andy Gibson, based on the Social Media Game originally developed by Beth Kanter, David Wilcox and Drew Mackie. The INCLUSO game took on board all of this and redesigned the game to fit into the INCLUSO concept, putting a focus on organisations that work with youth at risk.

The game takes about 2,5 hours to play by preferably 8 to 10 team members from one organisation, working with youth at risk and interested to take a quick tour around different aspects that will become part of a road map. The game cards introduce the type of organisation, the goals that can be pursued, the organisation readiness, planned activities in line with the chosen goals, tools and sustainability aspects. During the game, the participants discuss within time limits, all these topics and come across questions, opportunities and problems that will also occur as soon as the organisation starts implementing social media concepts into daily practice.

Furthermore the Whitebook discusses many pitfalls that are related to the fact that organisations working in the area of youth-at-risk often do not have a digital

culture at all. Introducing ICT and social software concepts will affect the whole organisation: the management's views, the communication with stakeholders, personnel matters, skills, technical set-up and support...

The experience within the 4 INCLUSO pilots showed that setting up a project does not always lead to success. Those activities that were inspired by the young people themselves were probably the most successful. Engaging with young people and connecting to their creativity and aspirations seem to be crucial. Youth at risk is vulnerable in many ways. Social media adds a new dimension to this vulnerability. Therefore it is at most important to give attention to safety, security, privacy and ethics when working with young people on the subject. These topics are discussed in the INCLUSO whitebook. Young people go online anyhow. If there is one good reason for youth workers to get involved, then is probably the fact that there is an important role for them in guiding young people to go online in a safe, secure, sensible way with respect for ethical principles.

Organisations investing in social media have a need to follow up on results. Methods for feedback and follow-up are also discussed in the Whitebook.

A special chapter is dedicated to "examples of what you can do". Throughout the 2 years of the INLCUSO project, pilots in 4 countries have tried out numerous things. Some were successful, other were not. This part of the Whitebook distills some of the ideas that have worked and that can inspire other organisations to get started.

Last but not least, attention is given to sustainability. Investing start-up money for ICT driven initiatives often has lead to very low satisfaction and sometimes even frustration. It is clear that the introduction of ICT into daily practice of work with youth at risk will require organisational resourses. These resources (staff time, investment in hardware, software, internet connections, technical support etc) can be important at the start of the project but the ambition should be to get return on investment and find ways to keep the on-line projects last. The INCLUSO business and sustainability model offers a framework to take on board different parameters that need to be monitored and optimised in order to make sure that the investment will lead to sustainable changes in the organisation.

8 Conclusion

Our experiences with the INCLUSO project have certainly confirmed the potential of ICT and social software in specific as useful tools in supporting the interaction between social work organisations and their target group of marginalised youngsters. Many youngsters feel at ease in an online environment and whether they are met on the platform of their choice or guided towards a platform especially tailored to support the activities of a social work organisation, they seem open to interact with social workers in the digital world if approached correctly.

As we find ourselves at the beginning of social work's ventures in this area, we feel that organisations in the field are eager to explore, experiment and structurally embed the use of these fast evolving tools. At the same time there is a clear need within these organisations for methods that can help them do so. Whether these

methods be for organisations that are just starting out and are looking to be inspired or for more experienced organisations that are ready to incorporate the use of these tools in a more sustainable way. Tools like the INCLUSO whitebook and INCLUSO game are this project's answer to these needs.

Moreover as more and more organisations throughout Europe start working with social software tools, it makes sense to encourage them to gather and disseminate good and bad practices as they go. Models like the Big Picture could form a basis for better comparison and evaluation of different activities.

And not only social work organisations should take part in this gathering and sharing of practices. Academia could provide better insights into why certain tools could be useful in certain cases. Policy makers should join in so as to better scope the needs with regards to privacy and ethical policies. Software developers themselves need to join the discussion as well, so as to make sure that their tools are constructed in such a way that it answers to the social needs of youngsters, the specific demands of welfare organisations and policy makers.

Hence it becomes clear that a continuous dialogue between these partners is in order. The Internet is a fast evolving medium and youngsters are often apt at coping with this change. The time is ripe for welfare organisations and policy makers to develop the same aptitude.

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Social Software Tools in Open Youth Work

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Abstract. The use of Social Network Sites has become more and more popular among youth work institutions of different kind over the past years. Following Open Youth Works target groups into their live in Social Networks - as a form of the new outreach approach in youth work - first happened uncoordinated. The thesis is that contact with the target groups can be strengthened and the number of youth at risk reached can be increased by the use of those Social Network Sites where these youngsters are present on. The INCLUSO project pilot and research in Vienna followed these attempts, tried to develop new educational tools and is offering its hints. In this paper we discuss both the Austrian (Viennese) specific use of the platforms Netlog and Facebook and the general approach of Verein Wiener Jugendzentren to the issue and will introduce findings of the pilot and other social network activities.

Keywords: Youth Centre, Social Network, Netlog, Facebook

1 Introduction

Social Software tools or Web 2.0 are a constantly growing part of the Internet. Especially for youngsters these tools have become a part of their daily life. This may offer a lot of possibilities for youth work organisations following the thesis that both the quality and quantity of contacts with youth at risk of social marginalisation can be increased by using such Social Network Sites (SNS).

The Verein Wiener Jugendzentren (Association of Viennese Youth Centres, VJZ) together with the Vienna University of Technology participated in the European research project INCLUSO and implemented a pilot project in Vienna/Austria to confirm the aforementioned thesis.

In this paper we discuss the use of the Social Software platforms Netlog and Facebook as they were used in the Austrian pilot and show the general approach of VJZ. We will introduce the findings of the pilot and present other social online network activities.

2 Social Networking among Youth at Risk in Vienna

Over the last two years studies were published about the use of Social Network Sites in Austria, one of them focusing on Vienna and especially on youngsters aged 12-19

and using Vienna municipality youth work services. This study is especially relevant regarding youth at risk and youth with migrant background as these groups are main target groups of the services. The studies proved the observations by youth workers of VJZ in Vienna from summer 2008 onwards that friendship networks gained a tremendously increasing role in the life of young people. 90% of 12-19 year old in Vienna have at least one profile on at least one network, the majority is active on two or more networks [1][1]. By far the most popular networks are Netlog and Facebook. Young teenagers tend to be present on Netlog whereas with increasing age and increasing educational background Facebook is the number one preferred network [2].

All youth centres and youth clubs of Verein Wiener Jugendzentren provide free Internet access for their visitors and as this happens in "public areas" of the centres the youth workers can observe which websites are used and can address the web-use in their activities and discussions with the youngsters.

Actually it had been the youngsters who started to request that "their" youth centre should be present on Netlog, the then preferred platform by youngsters, and youth work followed this request.

More than 75% of the "friends" on Social Network Sites youngsters also know in reality [1][2], therefore it was clear that this upcoming new tool would be rather strengthening ties with those who are already visitors of the centres than broadening the group of visitors.

An internal survey of VJZ in late 2008 showed, that already 11 out of 24 centres had their own Netlog profile and each of these centres had in average 60 "friends". A working group was established to exchange data and experiences on that issue.

Having had bad experiences with an own chat-community platform in the late 90's, early 00's the association could make a clear decision that future e-youth work will have to be established on existing platforms which are already in use by the target groups.

Regarding the type of activities the studies give information about the reasons for youngsters to use Social Networks which is important for answering which e-youth work activities there are promising. The main reasons are self-expression, to stay in contact with friends and gossiping about people you know [1][1]. Finding new friends and relations are only secondary reasons. This can be interpreted as a highly private use (even though it is happening almost in public) in terms of issues which are relevant in network communication (spare time, friends, relationships, …) This is also supported by literature [3][3] and very concrete by a statement of a VJZ youth worker working on the platforms who said: "If I bring up school or work issues in platform forums nobody will react, they just don't want to be bothered by this here, they simply want to have fun".

[1] Page 29ff
[2] Page 33
[3] Page 50ff

3 Pilot Settings and Goals

An important role in the INCLUSO project played pilots that have been set-up in four European countries. In Austria the Vienna University of Technology has been the responsible partner. The university, however, does not have direct access to youth centres so the Verein Wiener Jugendzentren became a sub-contractor in the project.

VJZ is a non-profit organisation located in Vienna and is the biggest provider for professional youth work on behalf of the municipality in the city. Some of the facts mentioned in the previous chapter, especially the already existing use of Social Network Sites both by youngsters and youth workers, were an excellent starting point for the pilot.

From the numerous youth centres operated by VJZ three have been picked as location for the Austrian pilot. All three of them use the model of Open Youth Work as basis for their day-by-day business where the youngsters can visit the centre during the opening hours and participate in any activities on a strictly voluntary basis. Essential for this approach is the low-threshold youth cafe of each centre were youngsters can spend their spare time without pressure to consume, and use games (e.g. table soccer, table tennis, board games) and Internet free of charge.

There were several reasons for selecting these centres among which is the fact that all three have youngsters who were actively using the Social Software platform Netlog but also the chat functionality of MSN and were visiting the centre on a more or less regular base. Also, knowing the youngsters and their attitude a little bit nursed the hope that they would stay with the project for the entire runtime.

From each of the three youth centres five youngsters have been selected making for a total of 15 pilot participants in Austria. They were between 13 and 19 years old and boys and girls were represented almost equally. The youngsters came from poor families or had a migrant background or both. The level of education is generally rather low. Depending on the youth centre and its location within the city the exact background varied.

The youngsters of the Austrian pilot received a small computer (a so-called Netbook) and the possibility for mobile Internet access. The Austrian pilot was the only one to receive such mobile computers for the youngsters.

Project Goals. The INCLUSO project has defined a set of goals as a common basis for all pilot projects.

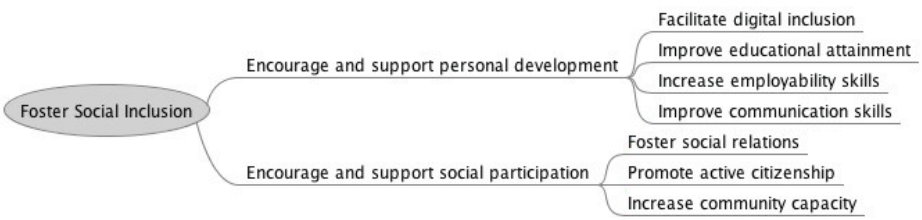

Fig. 1: The basic goal to foster social inclusion split up into a set of sub-goals as defined by the INCLUSO project.

Depending on the working model and intentions of each pilot the respective organisation either took up all goals or picked a subset of them.

4 Pilot Activities and Experiences

The first important step during the pilot was getting informed consent from the participating youngsters and – in case of minors – that of their parents. A description of the content and goals of the project, rules for both project participation and handling of the provided Netbooks, and information about collecting and handling of personal data were given. It was pointed out clearly that the youngsters are participating on a voluntary basis and are free to leave the project at any time.

In the early pilot phase the youth workers showed the youngsters how to use the Netbooks (especially the WLAN functionality and how to find and use free wireless hotspots) and installed and explained various types of Open Source software. Additionally, the Netlog group and profiles of the youth centres as basic platform for communication during the project were presented to them.

Communication between youngsters and youth workers during the pilot was slightly varying from centre to centre. While in two centres the communication remained mainly a real life talking during youngster's visits in another centre it concentrated on MSN and telephone.

Common activities. Apart from the everyday work within the pilot which was generally happening separately in each of the three centres two common pilot-wide activities were prepared by the youth workers:

- For the first activity the youngsters were asked to create a Christmas card using two given pictures and additional ones they could find on the Internet. The idea behind this action was to improve information and communication technology (ICT) skills and – as a side-effect – to foster social relations ("staying in contact at Christmas").
- For the second activity the youngsters were asked to create a PowerPoint (or the equivalent Open Source system) presentation presenting themselves that could be used for e.g. job applications. Again, this action was meant to improve ICT skills. The increase of employability skills by having the youngsters discover their own strengths and abilities and presenting them in a positive way was another goal.

As it turned out these two activities were not really successful. To a great extent this was due to the fact that both activities did not come from the youngsters themselves, an experience made throughout the whole INCLUSO project. Also, in both cases the abilities of the youngsters in working with standard software was overestimated. Finally, the Christmas card contest was done during a time of very high school and private activities and the PowerPoint slides were not seen useful for such presentations are not asked for from employers the youngsters usually apply to.

Other activities. Activities that came either directly or indirectly from the youngsters or met their immediate needs were more successful. Some youngsters started to intensively work with the Netbooks, in one case even building up some network and

programming skills. Image editing software that was not used during the Christmas card activity was widely used to improve profile pictures. The knowledge about free WLAN hotspots was not only used to access the Internet by the pilot youngsters but was also handed on to other kids in the youth centres.

The topic of privacy and of online profiles being uncontroversial was raised several times during the pilot and an increase in awareness can be noted. In general, the number and intensity of contacts between youngsters and youth workers increased both in quantity and in quality.

5 Further Activities strengthening e-Youth Work in Vienna

Beyond the activities related to the INCLUSO project VJZ launched two major tools in order to track the development of e-youth work within the association.

It was already mentioned that by autumn 2008 regular meetings of representatives from those centres which use Netlog started, this working group was then established as a regular (quarterly) exchange forum for latest developments. All centres of VJZ are invited to take part.

In autumn 2009 the decision was made that the new e-youth work should also be included in the statistical reporting of VJZ. Since beginning of 2010 all centres collect quantitative data about their social networking. As the general system of statistic is collecting "contacts" the same logic is used also in e-youth work. All centres collect the number of chats they have per month and the number of comments and re-comments they have per month. By that we mean all types of direct two way communication with individual youngsters through the social network. A single comment on a picture (without re-comment) is not counted. Announcements, shouts, click-rates are not generally collected. Some centres do that nonetheless.

The following figures are taken from protocols of the quarterly Netlog/Facebook working group at VJZ, the monthly statistical reports handed in by each unit and an own survey carried out in June 2010 by checking all profiles/groups run by VJZ units on Netlog and/or Facebook:

- 24 out of 29 units (centres, detached youth work units) are present on Netlog.
- 10 Units are present on Facebook.
- Those who looked at the click rates had between 50 and 300 visits within 30 days
- The number of "friends" who can be reached by "Shouts" etc. is between 35 and 255 friends whereof about 20 usually are other youth work units and the rest youngsters. Almost 100% of these youngsters also visit the centres and are known personally.
- The statistically over all collected "contacts" (direct communication by chat or comment- re comment) range from 8 to 46 per months in the different units. Once more it is proved that those who are more active (by posting new pictures and promoting events regularly) also have more direct contact.
- Some centres offered "Online Opening Hours", certain hours in the week where staff members where online for sure and ready for chatting. So far this offering was not successful. The chats usually happen by chance or were prior to that appointed by messages and the "Opening Hours" were not used.

The main use of social networks is still a kind of PR. Events are announced, pictures of that events are posted and commented by the youngsters. Some centres use (on Netlog) the questionnaire tool.

The contacts on Facebook are increasing whereas those on Netlog remain static or are slightly decreasing. This corresponds with a general increase of Facebook in Austria.

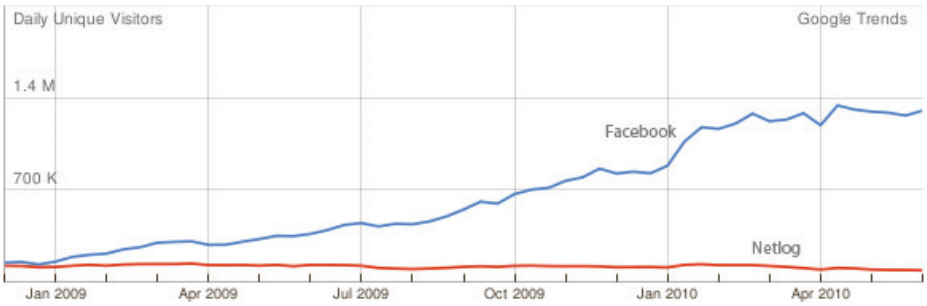

Fig. 2: Number of daily unique visitors on Facebook and Netlog in Austria (June 2010) [6].

Since 2009 Social Networking is included in VJZ's staff training programme. Trainings are both practical - how to use different platforms, the tools they offer - and theoretical by discussion and examination of Internet use in general [3][4] and online self-expression and virtual identities specifically [4][5][5][6].

6 Findings and Conclusions

The INCLUSO Project and specifically the Austrian pilot fell into a phase of huge increase of importance of Social Networking in Austria, especially for youth at risk. Open Youth Work in Vienna and especially at VJZ was alerted about this development by own observations and youngsters themselves. The INCLUSO research was a highly welcomed addition to that.

During the working period the increase was accompanied by changes in characteristics of usage of the platforms. The fact that often more than one platform is used is proven by several researches (e.g. [1]). Even though currently no other Austrian research is available regarding how which platform is used, the youth workers observations in Vienna made clear that Facebook is seen and used more "serious" than Netlog, e.g. by using the real name and having a profile more close to reality. This often goes along with the behaviour on the platform. We can assume that this is also related with the different age when which platform is used. Furthermore, the development is still going on and has to be observed. Youth at risk seem not to use subcultural platforms and user behaviours as described in [7].

[4] Page 59ff, page 119ff
[5] Page 33ff
[6] Page 98ff

For Open Youth Work with its low threshold approach it is generally important to bear all youth trends in mind and to react to them. From 2008 onwards VJZ and several other youth work NGOs in Vienna, other provinces of Austria but also Switzerland (see for example http://de.netlog.com/groups/JugendarbeitundNetlog) followed their youngsters into the Social Networks. Having a look at VJZ profiles and the increasing number of youth centres located outside Vienna joining as friends show that this is also – as an additional benefit – an unplanned tool in networking among youth institutions.

As youngsters approach to the Social Network Sites so far is more fun oriented than "solving lives issues"-like, spare time activity offerings are the key for Open Youth Work to establish connection with their target group here. Further goals such as the ones selected for INCLUSO have to be pursued carefully and not too offensive for youth at risk then tend to relate to it as too "school like" and refuse further communication.

The main benefit of the structure offered within INCLUSO was that the relationship to a lot of visitors could be strengthened; this benefit will only be partly long-term sustainable due to time resource reasons.

One issue that came up both within INCLUSO and the whole examination process of work on Social Network Sites was which type of appearance there should be chosen. Mainly it is possible to have a profile, a "site" (only for Facebook) or found a group. It turned out that both the "group" tool (on Netlog and Facebook) and the "site" on Facebook are not well enough accepted by youth at risk. They are more in favour of "being a friend" which can also be proven by visiting the sites and groups dedicated to those youngsters: "fans" and "members" are rather other youth workers and youth work institutions than young people from the target group.

Findings. For VJZ's work the major findings and conclusions for the near future are:

- The whole area will be handled as an own specific type of youth work and the term "e-youth work" is introduced.
- The approach is to follow the target groups on the Social Network Sites where they are and not try to bring them to a self-created platform (e.g. with "Ning").
- Those centres being more active spend 3-5 hours per week to gain the minimum standard of activity that makes sense and keeps the profile alive. This time must be taken from the available resources meaning a change of work plans.
- Basic standard is a kind of new PR work and communication with youngsters.
- Further activities have to be reviewed carefully.
- The e-youth work has to be highlighted both in qualitative reports but also in statistics; the adaption of the statistical reporting was highly important for the funders (Vienna Municipality).
- Additional intensive work (such as with the 15 "INCLUSO youngsters") needs more resources.
- At least one person per centre needs to be specialised and trained properly.
- It is important to track the developments, therefore the "e-youth work" working group changed from being a project to a regular working instrument.
- The development of an own "Code of Conduct" is requested.
- Further research within that area is highly requested.

The area of youth at risk on Social Network Sites is an extremely dynamic and rapidly moving one. The chances and risks are numerous and a deep and permanent examination is not only necessary for Austria but also for all countries with high and still increasing rates of Internet usage.

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Gaming Technology Platform as a Support Tool for Anti Social Behavior prevention in Young People at Risk to be Marginalized

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Abstract. The aim of European Commission founded project REPLAY is to develop a gaming technology platform to provide young people who have become marginalised in society as a result of anti social behaviour with a learning environment to facilitate their reintegration into society. Although scalable to a range of marginalised groups such as immigrants, children with learning disabilities, retirees etc, REPLAY will focus on the education and reeducation of young people whose behaviour might be a problem for the communities in which they live.

The project is funded by the European Commission under the 7th Framework Programme. It is a collaboration between seven partners in Spain, Romania and the UK. The coordinating partner is Brainstorm Multimedia, a technology company based in Valencia. Brainstorm lead the game development phase of the project. Innovatec, an SME based in Alicante, provides an innovative balance board interface into the game technology platform. AIJU, a toy research institute also based in Alicante, offers feedback throughout the process on the efficacy of the game. Alexander John Cuza University is the oldest academic institution in Romania: the Centre for Applied Research in Education participate in all phases of work. White Loop, a London based consultancy, contributes with particular focus on measuring the social and organisational impact of the game. Alongside three 'testbeds': in Romania, Rotalent, an NGO involved in exploring how giftedness affects behaviour and marginalisation; in Spain, the El Cerezo Day Centre, a facility whose main objective is to help reintegrate troubled young people back into society through actively encouraging the development of social capabilities and values; and Woolwhich Polytechnic School in UK participating as a volunteer organisation

In the paper we establish the main requirements in the design of the gaming paltaform based on experts opinions obtained in semi-in-depth interviews and Focus Groups. The gaming platform has been developed based on these requirements and it is under evaluation by the end users and review by experts from the European Commission.Innovation, technology, research projects, etc.

Keywords: Replay, re-education, gaming platform, virtual reality, marginalised youth

1 Introduction

The aim of European Commission funded project REPLAY is to develop a gaming technology platform to provide young people who have become marginalised in society as a result of anti social behaviour with a learning environment to facilitate their reintegration into society. Although scalable to a range of marginalised groups such as immigrants, children with learning disabilities, retirees etc, REPLAY will focus on the education and reeducation of young people whose behaviour might be a problem for the communities in which they live.

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2 Context

Anti-social behaviour is a significant issue in all developed societies. In countries like the UK, anti-social behaviour amongst young people is a political as much as a social issue. There are many measures in place across Europe that aim to deal with instances of anti-social behaviour, many of which mirror the approach taken to adult crime. This means a mixture of penalising the offender through a variety of punitive measures and attempting to engage offenders in programmes of rehabilitation. Furthermore, anti-social behaviour is seen largely as the ‘first stage’ towards an individual becoming involved in criminal activity when they are older: there is, as it were, a rising scale of behaviour that begins with low level anti-social behaviour in school and can end in serious or violent crime.

Within this context, a view has emerged that resources should be increasingly focussed on identifying and addressing individuals with behavioural problems as early as possible. A significant body of evidence suggests that by dealing effectively with children and young people who display low-level anti-social behaviour, there is a greater likelihood that these children will avoid falling into criminal activity as they

get older. Enabling children to understand why they behave in the way they do, and then helping them break their behavioural patterns, can be hugely beneficial to the individual, the school and the community.

Alongside the paradigm of anti-social behaviour is the emergence, over the last 10-15 years, of pervasive technology and, within that context, the profound popularity of video games. Many studies indicate that the level of interaction between young people and video games – i.e. those who play these games regularly – is around 90% if you look at an age range of 10-14 year olds. As the technology has developed, these games have become more immersive in terms of graphics, sound and narrative and, with the emergence of the Nintendo Wii, more engaging in terms of physical game play. Furthermore, engagement with video games is particularly high amongst those with behavioural problems, as gaming can provide a sense of control and freedom to the player that they may struggle to experience in other parts of their lives. Many products are now emerging within the serious gaming paradigm. However, at this stage, the majority of serious games for children and young people are focussed on a traditional notion of teaching and learning: there are serious games to teach geography, maths, languages, chemistry etc. The acknowledgement of how positively many young people respond to a gaming environment and the associated benefits this can bring to the learning process are well documented. However, thus far, this approach has not be applied to the field of behaviour change. It is here that the REPLAY game sits.

3 Main Requirements and the design of Gaming Platform

In identifying the main requirements of the REPLAY game, the consortium worked closely with user groups and experts at every stage to answer several questions. These questions, and the responses we received, are outlined below. Answers were obtained through consultation with those working with children that demonstrate anti-social behavioural problems or are perceived as 'at risk' in the future and could be marginalised or excluded as a result. We also worked with children to better understand what they liked in the video games they played, what elements engaged them and why they chose to play the games they play. This was vital in informing the 'playability' of the game. We engaged all users and experts in Focus Groups and semi-in-depth questionnaires in order to obtain the essential feedback that enabled us to develop the gaming platform in such a way that the needs and requirements of the experts working with children were met and the gaming tendencies and interests of the children and young people were supported.

3.1 What type of tool should REPLAY be?

There was considerable debate throughout the focus groups sessions as to whether the REPLAY game should be designed primarily as a therapeutic tool – i.e. something that, in of itself, can address behavioural issues and effect change – or rather as an assessment tool – i.e. something that helps professionals better understand the young person with behavioural problems and, in doing so, helps them address these issues.

The ability of a tool like this to be successful as a therapy is viewed as ambitious, particularly in addressing issues in older children. It would be very challenging to write the game contents in such a way that, on its own, the game could educate and change the behaviour of a player. However, there is, it seems, an opportunity to use the game to create an opportunity for open and honest dialogue between player and professional and that, in so doing, that could lead to positive therapeutic outcomes. This is something we considered in the design of the game and the authoring of the game contents.

In thinking about the game as an assessment tool, the value was immediately clear. Current assessment tools, aimed at understanding the motivations and feelings of individuals through an interview or question and answer session, could be transposed highly effectively into game contents. By presenting options or choices in relation to questions or dilemmas during game play, the care professional will be able to assess and record the player's responses, as well as using those responses as a starting point for further discussion. By adopting the content approach used in current (successful) assessment tools but presenting this approach within a game context, REPLAY could prove to be significantly more effective in eliciting open and honest responses to the questions and dilemmas posed. The major criticism of current 'talking therapies' is that they happen in what is essentially an adult environment: sitting face to face with a care professional to discuss your feelings is not a natural context for many young people. Situating these questions, and the broader discussion, within the structure of a game would significantly enhance the openness and engagement of the young person as a whole. In addition, this approach does not restrict or negate the use of the game as a starting point for more therapeutic aims.

3.2 Who should the game be for?

Throughout the focus group sessions, we talked about 'children and young people' as being, broadly, the target audience for the REPLAY game. It became clear from the expert opinions expressed during this process that specific age groups within the broad description will have different reference points and, therefore, need to be addressed in different ways and with different content.

When we are thinking about who the game should be for, we first have to decide what we are trying to achieve. During the focus group sessions, one thing became clear: the most effective way to deal with anti-social behaviour is to address the problems as early as you can. As a child gets older, the manifestation of anti-social behaviour becomes more serious, ultimately leading to criminal activity. In addition, the effectiveness of interventions becomes less certain. Also, the number of young people exhibiting lower level types of behaviour is much greater than those behaving in a more serious manner. While there is clearly an application for REPLAY at any age, the conclusion is that a younger age group would be the best target audience for the initial REPLAY prototype.

Although some experts suggested that this younger age group could begin at age 7 or eight, we suggest that game content be generated for a slightly older group. Those

young people between 10 and 14 tend to exhibit the most pronounced 'early warning signs' of potentially problematic behaviours. Plus they are going through significant personal transitions – puberty; change of school etc. - during this age phase. On this basis, the 10 to 14 age group will provide the initial focus point for content development. Within this age cohort, it was decided that two levels of ability should be catered for as the difference in cognition between a 10 year old and a 14 year old – or the difference between a gifted 12 year old and a 12 year old with learning difficulties – can be significant. Developing both a lower and upper ability content set will hopefully address this.

A further issue in considering the target audience for REPLAY is that of gender. Examples of anti-social behaviour are significantly more prevalent amongst boys than girls. However, REPLAY should be developed in such a way as to appeal (or be applicable to) either boys or girls. Part of the testing phase of the project will be to analyse the different reactions of boys and girls to the REPLAY game. This has to be done within a wider context in which engagement with, and participation in, games and gaming technology is more prevalent amongst males than females. Therefore, the simple premise of REPLAY as a game could be a negative factor in the level of female engagement. This is something we intend to monitor during testing.

3.3 What type/causes of behaviour should be addressed?

During the first phase of the project, we worked with experts in the field as well as conducting a literature search to provide us with a set of classifications that would help us understand the different levels of anti-social behaviour amongst young people. This, in turn, helped us in considering where the focus for the REPLAY game should be and how the content should be designed. The following table indicates the progression of anti-social behaviour from low to high:

Fig1.- Table of anti-social behaviour progression (from low to high)

Level	Behaviour	Definition
1 (low)	**Disruption in the classroom**	Defined as a situation in a classroom where 3 or 4 students due to their bad behaviour prevent the normal development of classroom activities, forcing a teacher to devote more and more time to controlling discipline and order. This classification of ASB is considered the most direct preoccupation and the most important source of unhappiness amongst education professionals. However, outside of the classroom it receives much less attention.

2	**Discipline problems (conflict between teaching staff and student)**	Defined as behaviours which involve a larger or smaller level of violence to general classroom disruption. This ranges from resistance or passive "boycott" to actively challenging and insulting teaching staff that can completely destabilise daily life in the classroom. (Debarbieux, 1997)
3	**Bullying**	Defined as the processes of intimidation and victimisation between peers, i.e. students who share a classroom or educational centre (Ortega and Mora-Merchan, 1997). More specifically, where a one or more students attack or intimidate another (victim) through insults, rumours, humiliation, social isolation, calling names etc. Even if this doesn't constitute violence, in the long term it can have devastating effects.
4	**Vandalism and material damage**	Vandalism is classified and limited to clear acts of violence against things. Though in combination with Physical Violence this has a great impact education centres and general public opinion, such acts don't usually constitute more than 10% of ASB registered in said centres.
5	**Physical violence**	This phenomena classified and limited to clear acts of violence against people and the increase and prevalence of all types of weapons within schools has lead to drastic measures in many countries.
6 (high)	**Sexual harassment**	To a certain extent, sexual harassment may be considered as a specific form of bullying, in the same way that we could describe in such terms, racist and xenophobic abuse. However, abuse, aggression and harassment of a sexual nature has enough relevance for it to be considered as a separate category. The level of this abuse varies between 4% of boys taken from a sample in Germany and 22% of Dutch girls admitting to having been victims of it.

What is clear from this data is that there is a gradually rising scale of behaviours that start with low level activity and end, eventually, with criminal activity. Furthermore, low level activity is consistently described as an 'early indicator' of more serious problems as young people move into late-teens and adulthood. In addition, low level activity is extremely common in schools and communities and represents the majority of incidents of anti-social behaviour.

On this basis, the REPLAY game should seek to address low level activity as its primary objective. In this way, the game will not only be dealing with the most common and prevalent types of behaviours but will also be part of an approach that seeks to catch problems early, something that is becoming the norm in countries across Europe.

This notion of 'early intervention' – referenced earlier - is not only key in addressing anti-social behaviour as part of a wider approach to dealing with criminal behaviour but is also predicated on the notion that prevention is better (and cheaper) than therapy. In addition, by pitching REPLAY as an early intervention preventative tool, we are maximising impact and ensuring that we will meet the demands of the market once the product is commercialised.

When we are developing the content for the game, we should focus on addressing the underlying elements that seem to be most important in their impact on low-level behaviour and are most clearly manifest amongst our target group. Primary amongst these is the notion of setting boundaries – this, in itself, relates to the idea of values and of the need to understand and challenge the value system of the young person with behavioural issues. Many of the low-level behaviours relate to the notion of boundaries being either crossed or not understood. This often manifests itself in behaviour that challenges authority or ignores basic rules and regulations. This is particularly relevant within a school context. By focussing on individual values and how these manifest in behavioural terms, we will be ensuring that the REPLAY game is addressing the core issues relating to anti-social behaviour amongst young people.

3.4 Which sort of exercises and activities should be included?

One of the main requirements identified during our initial consultation process was that the exercises or activities we embed in the REPLAY game must be able to be carried out in multimedia format in order to take advantage of the added value that a 3D multimedia application like Replay offers us. On the other hand, in order to maintain consistency between the 3D game and current (non-technology) based activities, we must develop exercises that reflect the inherent approach of existing tools. As such, including images, audio and video is a priority. In addition, some exercises will inevitably be text based, although we will use audio to augment the communication of text-based activities.

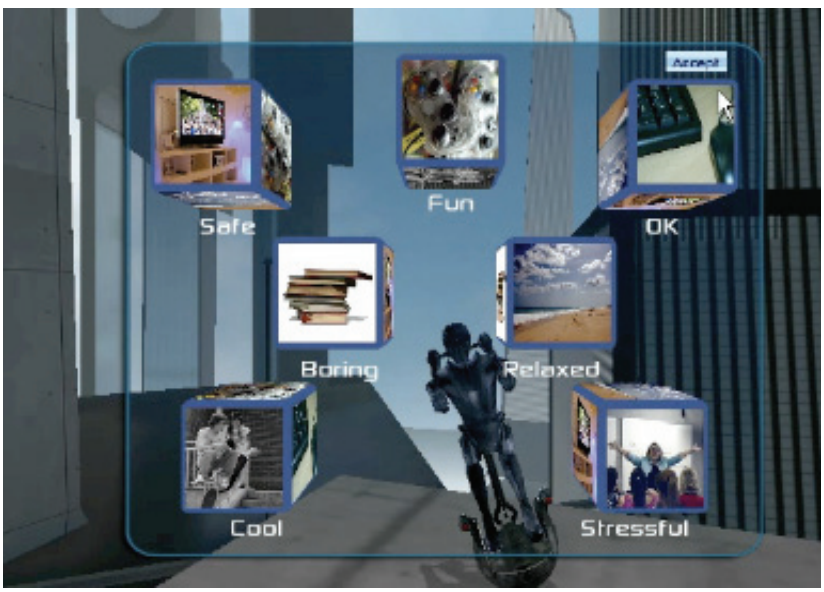
We will also try to maximise the impact of gaming technology in this field by integrating activities into the game play itself (rather than simply taking existing content and reproducing that on-screen). We will attempt to exploit the significant

possibilities video game technology offers to create decision-making choices and to present two dimensional media in a three dimensional format – enriching existing approaches with sound, video and making the whole experience more immersive.

As far as possible, activities will be woven into the structure of the game itself and will therefore be less obvious to the player. If we can achieve this, we will ensure the game has greater impact and this will increase the effectiveness of the tool as a support mechanism.

We will incentivise engagement with contents by making activities mandatory in order that the player can progress to the next stage of the game. However, we would argue that non-engagement with game contents would, in itself, provide an interesting and valuable starting point for further discussion.

It is important to be clear, at this point, that the game will be designed to be played by the young person in company with a teacher or care professional (rather than by the young person on their own). There will be two 'modes' to the game: the first will be Play mode which will involve the player navigating through the game environment, completing activities as they arise. The second mode – available once the player has completed the course – will be REPLAY mode. This will allow the decisions, choices and reactions the player gave during Play mode to be replayed back to them. At this point, the teacher or care professional can use Replay mode as a launch pad for discussion: "Why did you choose that option? Why did you take that path? Etc." All choices made will be recorded so that the teacher or care professional will have a record of the player's reactions and can use this to inform further action as part of a coordinated behavioural programme.



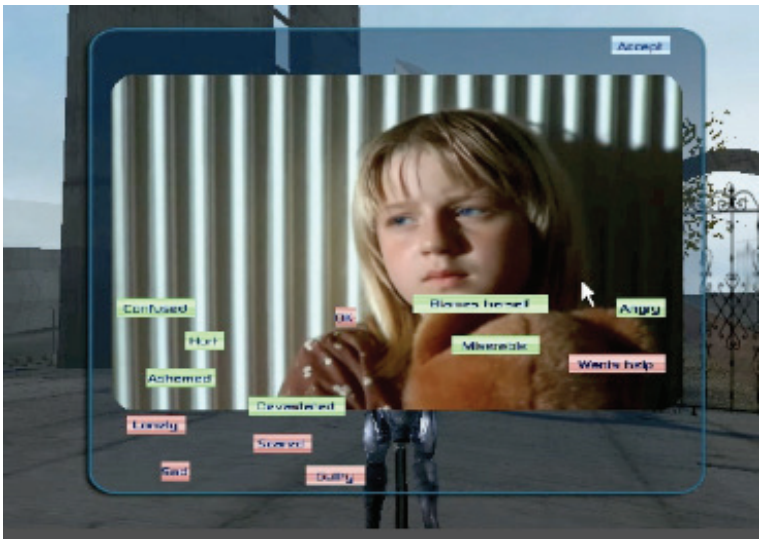


Fig. 2: Some example screens from the REPLAY platform

4 Conclusions

The REPLAY Gaming Platform has been designed according to the opinions, needs and requirements of the experts engaged in the project. Although not all suggestions have been implemented due to technical and time constrains, we believe we have managed to create a tool that supports the objectives of teachers and care professionals in addressing anti-social behaviour in young people whilst at the same time is compelling in terms of graphics, sound and playability to young gamers. . We will learn a great deal more about the effectiveness of the game from the testing cycle that will begin in early 2010 and take place in our three test centres in Europe. Many of the experts who have be\j.ken involved in developing the game concept and contents will also be involved in testing the prototype with young people. Beyond this, the game has been built in such a way that we can quickly update and develop new content activities, ensuring that a commercially viable product can be brought to market quickly and that difference versions can be created to meet the specific interests and abilities of different players. We hope ultimately to create a new paradigm in serious gaming that will lead the way in terms of next generation epistemic applications for young people.Use as many sections as you need (e.g. Methodology, Results, Conclussions, etc.) and end the paper with the list of refecences.

Although the market for so-called ‘serious games’ has grown rapidly over recent years, there is still much to learn about what makes a successful eduactional game. The dynamic between the immersion and playability of the game and the didactic content embedded is critical in the success of a game like REPLAY. Furthermore, the game itself needs to be pitched at a level that the player feels is both hard enough to be

a challenge and easy enough to complete. In addition, a game like REPLAY will not be played continuously or for long periods of time by the player, designed, as it is, to be played in collaboration with a teacher or professional as part of a wider behavioural programme. This makes it fundamentally different (as a game) from the sorts of games that young people are used to playing and that are based, predominantly, on the assumption that the player will have many hours if not days to master the different stages of the game. And finally, developing a game for implementation into an educational or rehabilitation context creates a number of practical challenges that need to be taken account of if the game is to become a successful commerical application. With all this in mind, the main lessons learnt from the REPLAY project are as follows:

- Young people have a very high 'game literacy' – for any serious game to be successful on any level, it needs to approximate in terms of gameplay and immersion the sorts of games those young people are used to playing. It is too easy to lose the game element and just be left with the serious element. If this happens, engagement in the game will disappear.

- Finding the right level, in terms of playability and the difficulty of the content, is critical in the success of a serious game. If either is too easy or too hard, the player will quickly lose interest (if the game is too easy) or become demoralised (if the game is too hard). The best solution to this, within the REPLAY context, is to ensure that the game can be pre-configured both in terms of content and playability, for the specific player who is about to play (and that this configuration can be changed quickly in accordance with the player's ability).

- A game of this sort, that will not be played for long or very frequently, needs to be designed with this in mind. This means that the set-up and scenario needs to be immediately engaging without being too complex, the goals of the game needs to be easily articulated and the basic functions of the game need to be easily mastered. The time available for each player to learn how to play the game will be short so they need to be able to engage and become proficent quickly.

- The pressures that exist within the context of behavioural programmes in schools and rehabilitation centres are significant in terms of time, resources, budgets and, sometimes, technology. Therefore any final product designed for this market needs to be developed with the realities of the market in mind. It is, for example, highly unlikely that an individual student within a school context will be able to receive more than an hour one-to-one attention from a member of staff within a given time period. Much of the behavioural work that is done within this context happens in groups. REPLAY is designed to be run one-to-one. Therefore, if we are to end up with a fully implementable commercial product, we need to develop REPLAY with a clear understanding of the practical factors that will, in the end, govern any such purchase within an educational institution.

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Music Making as a Social Integrative Tool – Design Experiences with Children

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Abstract. The EU-funded FP7 project *Usability of Music for the Social Inclusion of Children* UMSIC (2008-2011) is based on the view that low school attainment increases the risks in other domains of social exclusion. We are designing a technical tool in music termed JamMo (jamming mobile) which aims to support young children's (aged 3-12) processes of social inclusion through the use of new music technology. As mentioned elsewhere [1], rather than just take inclusivity as an end aim, the designers and developers have chosen to promote inclusion as a thread running through the project. The application is developed as an Open Source (OSS) software with music as the social intervention tool. In this paper we describe two studies of the design process and involvement of children with non-host language background. Children aged 5-6 participated in the design activities of the JamMo singing and composition game stand alone application. We begin with a short background description on the approaches taken by the UMSIC research team to design the technology for game-based learning contexts in music that aims to improve inclusion and reduce isolation in groups of children and especially where some children have attention deficiencies or whose language is different from that of the host country. We outline the challenges of designing a social integrative musical tool for and with children by bringing some experiences on the design and evaluation of the first stand alone singing and composition game application of young children into inspection.

Keywords: Children, Music, Mobile Computing, Inclusion, Design with Children

1 Introduction

There is a growing body of neurological and related research evidence that the promotion of early competences in music and language are interwoven and thus, in UMSIC, music is used to also help children to develop language skills whilst positively affecting children's emotional, social, and intellectual development. User sensitive, creative learning environments for social sharing especially in the mobile environment of music do not yet exist for young children.

UMSIC is designing and implementing a music-oriented product JamMo – Jamming Mobile for children aged 3-12 at the risk of marginalization. We are developing a

system to open interactive environments for children to communicate informally with their peers by using familiar modern technologies. With a special focus on child-centered design, usability, intelligent musical engineering and carefully developed pedagogical design that is allied to structured learning material, UMSIC allows children both stand-alone and later on, with the 7-12 application, networked operations with easy start up and impressive extensibility. Children will draw benefit from the targeted learning material in multiple ways by learning independently the usage of musical software required to enter musical online communities in every-day life.

Children and technology has been a topic in academic discourse since 1980s. Nowadays like in this project the focus has changed from describing children and technology to designing with children. By doing this, the task is especially to highlight the design process, and the aim is to take the growth of the children into consideration, especially in an individual level. In this paper we concentrate on the description of the JamMo development and on two design studies with children.

The first JamMo application (designed for 3-6 yrs old children) has been showcased on October 2009. As open source software the developmental work on JamMo is always available at http://jammo.garage.maemo.org. A stabile version (v0.5) of the application was developed spring 2010. This application has been designed together with special target groups, 5-6-years old children with non-host language background in northern Finland.

1.1 Description of the project UMSIC

As one of the FP7 projects for Marginalised Young People (MYP) the aim of The Usability of Music for the Social Inclusion of Children (UMSIC) - project (2008-2011) is to develop and use up-to-date technology in a coordinated, intelligent and accessible way to support children's social inclusion. UMSIC aims to particularly support, through music those young children who are at increased risk of being marginalized.

UMSIC is designing and implementing a music oriented product JamMo – jamming mobile for children aged 3-12 at risk of marginalisation. The JamMo product uses middleware solutions that provide seamless connectivity and dynamic re-configurability for different scenarios; the scenarios (stand-alone, networked, ad-hoc and public) are designed to enhance social inclusion. A special emphasis has been put on the user requirements, i.e. child-computer interaction as well as other usability issues. Software is developed as open source software (OSS). JamMo is a ubiquitous product (i.e. application), which provides sound synthesis, sampling, sequencing and touch-screen virtual musical instruments in an educative form for children in different age groups and learners with specific needs. JamMo aims to provide children with a new means of pursuing musical creativity, social cohesion and emotional self-regulation, which may significantly enhance social inclusion. JamMo is also a novel research tool with which data of children's cognitive, emotional and social aspects of general and musical development can be obtained. JamMo can be characterized as being an innovation for it includes all the following features as a combination: musical creativity, learning and development, social sharing and identity, and research. (www.umsic.org.)

1.2 Current status of the project UMSIC

At this stage UMSIC is at the halfway point of the project lifetime. A full impact analysis will be carried out and this will use one or more of the four prototypes that are being planned; these being the already produced stand alone JamMo product v0.5 for 3-6 aged children, the pair game JamMo product for 3-6 aged children, the JamMo product with orientation games for older children (intended for use in schools) and the JamMo community package (for children aged 10+) that will be situated in the home. The UMSIC project aims to be able to report on:

- Children's engagement with the product
- Children's sociality with the product
- Children's music knowledge and ability with the product

In the becoming one and a half of years time prototypes of the products will be refined and tested with children and the impacts and effects of the products will be monitored and reported on. The UMSIC project aims to provide significant new knowledge on methods to evaluate handheld portable devices in the field, on how to assess the impact of these devices and systems on children's sociality and knowledge and on how to design and create such products in an Open Source multiplatform environment whilst working with a multidisciplinary team.

2 Aim of the JamMo for young children aged 3-6

The general structure of young children's game user interface (UI) is in form of play. The play context forms a working space including the sequencer timeline. The bear mentor is available whenever children need guidance, as well as encourage children after successful actions. The mentor will speak the host language of the children, suggesting suitable actions whenever children hesitate for a longer time, or try to perform an action without success, and do not know how to proceed. This is the main pedagogical idea of the games. There are two versions of both Singing and Composition Games: Easy and Advanced. Easy games are targeted to younger children (aged 3-4) and advanced to older ones (aged 5-6). However, the game level will be selected according to individual children's developmental level and learning speed. The composition games aim at i) fostering creativity and musical expression through musical play, ii) developing compositional and sequencer-related skills in young children, iii) developing children's abilities to perceive, combine and abstract musical patterns in different music syntactical dimensions, iv) encouraging musical collaboration of young children during composition through cooperative play and v) foster digital literacy in young children.

In composition games short musical patterns work as mental units. Music is visually represented by gradual activation of the sequencer timeline, or loops on that timeline. Each musical pattern is visually represented as a play symbol (e.g. animal character etc.).

The composition game aims at introducing young children to loop-based composing with sequencer software. Users choose from three different themes: Animal World, Fantasy and City world. These themes include different sounds or sound families. Animal includes natural, acoustic soundscape such as ethnic percussion loops and

ethnic melodic and harmonic patterns. Fantasy includes imaginative musical pattern, concrete sounds as well as tonal music. City represents urban sound world, including electronic sound and patterns related to popular music genres.

The structure of the game is a simple non-hierarchical path. In every view there is always the possibility to return back to the start of the game. The mentor, a friendly teddy bear, is located on the screen in the left hand upper corner. The mentor guides the user when the user enters the view, and the user can call the mentor by touching the teddy icon. The mentor zooms larger when speaking and again smaller after speaks.

The main idea of the game is to explore musical materials, loops representing sounds (easy version) or sound families (advanced version) and selecting loops by dragging and dropping them on the sequencer timeline (track). After composing a musical piece, the users can by choice sing along the music. The compositions will be placed to a cupboard to be listened afterwards.

The singing games aim at exploring the informal singing as an enjoyable and playful activity for the youngest children. Children can discover and develop their own singing with a set of songs, familiar and unfamiliar, by active listening, playing, managing and improvising. The singing games provide young children song with limited pitch ranges. This allows children to participate and exercise the vocal system to explore their comfortable singing range. It also brings the children the feeling of success. The requirements for the musical material in both composition and singing game were published on the UMSIC deliverable D4.6.

3 Development of the JamMo-singing and composition game 3-6 yrs stand alone application

Designing the UI with children and assessing the usability have been brought to the research field some ten but not twenty years ago [2]. Children´s user interfaces differ from those of the adults. At this moment child-centred design research is concentrating to the basic research and to find the special features in assessing the usability and experience-based knowledge when working with children.[3][4] Using participatory methods, children have been involved with the design process in different roles (user, tester, informant, designer) and produced useful design material for the singing and composition game [5]. The methodological basis of this study consisted of the Design Based Research [6], the Learner Centred Design (LCD) and especially, as mentioned above the methods of Participatory Design (PCD) [7].

First JamMo stand alone application was showcased as earlier mentioned in Maemo Summitt autumn 2009 in Amsterdam. Since that several versions have been developed until the first stabile v.0.5 was launched March 2010. Different studies among the UMSIC partners were driven especially in featuring the design and the user interface regarding the special target users. [8]

Following the child-centred design approach highly respected in this project, children have had a significant part in making decisions on how to proceed with the program development. In participating children have been working not only as end-users but also as important informants and designers. In this paper our intention is to

mainly describe through a participatory design process the child-centred user interface and program development.

Two multidisciplinary student studies were realized during the academic year 2009-2010: 1) the Kids-Tune project (2009-2010) and 2) a usability testing of JamMo-music game for children –project (spring 2010). In these studies master students of the Faculties of Information Technology and Educational Sciences worked to develop and test the usability of JamMo music games for 3-6 aged children. Their work was mainly concentrating on the User Interface (UI) development and evaluation together and in guidance with two PhD students working for the project UMSIC.

1) The Kids-Tune project – participatory design with children

Master students and children aged 5-6 worked collaboratively with the JamMo singing game for 3-6 yrs that was featured earlier by UMSIC multidisciplinary research team. The project group organized six workshops with children during their normal day-routine in two different nurseries. Direct observations of children's social interactions in their natural setting are all the more important to describe actual children's behaviours and to provide a detailed picture of young children's networks [9]. In both groups there were some children with non-host language background like Thai, British and German background. Children were interviewed or asked questions and observed by videos, photos and making notes. All children and their parents were asked by informed consent. In working, every child was informed not be forced to participate and to leave the task if not interested. Children were enthusiastic in their participatory work with the students.

The student group had different tasks of which the development like features and structure of the singing game was the main objective. Students produced the background music, edited the songs and the mentor speaks for the singing game. In working with children the students and their supervisor used every-day activities like drawing, singing and improvising together, playing and talking with children. Drawing got an especial role in the development work: some ideas of the children's own drawings were implemented directly to the game with the graphic designer's expertise. Children and parents were informed on the situation and the consent asked by the students. Paper prototyping [10]with the JamMo was easy and enjoyable for the children.

Finally the preliminary testing of the game version was realized with the same children. In this iterative process both the students and children worked with a great enthusiasm. For the children with non-host language background activities with the students and the game prototypes showed no differences compared with the other children. On that time there were some preliminary song versions with different languages available in the game.

2) Usability testing of JamMo music game for children

Four usability tests were carried out with children in two nurseries during the spring 2010. The four testers were 5-6 yrs old. Three of them were of immigrant origin and one of them had a hearing aid. Here the evaluation and testing of the singing and composition game version 0.5 was presented. The game which was tested is intended for 3-6 yrs preschool children. The purpose of this preliminary testing was to report

the results and obtain information on i) how the children use the program, ii) whether or not the functional idea of the game works according to the functional model of the game, iii) whether the game is fun, iv) whether the child can get started easily with the game and v) whether the mentor was working as a good adviser for the child.

Methods which were used were heuristic evaluation, pilot testing and the usability testing in the field. Field tests included thinking aloud-method, direct observation and series of interviews. Test type was the applied formal walk through which include the next detection methods: user observation, qualitative usability testing and the actual intervention [11]. Results were evaluated through the problems as well as through the interaction analysis, taking the usability criteria (user satisfaction, fun, user help and support, suitability for the age group) into account. These methods are familiar in the usability research tradition(Buby 1994).[12]

Valuable results were achieved of the usability testing. There were plenty of good and functional details in the game. Most of the testers found the mentor's encouragement after their singing pleasant. Usability problems were found in all the different levels of severity ratings. The most serious problems were found related to the program crash and disruption. These have been corrected since that. The least severe problems were mainly related to the visual attractiveness. Also some functional disorders were found from the game; the illogical traffic lights and the mentor caused occasionally reduced enthusiasm in the users. However, the games´ difficulty level was right for the 5-6 yrs children. Some playful exercises should be added into the composition game for the dragging and dropping of the icons. In the project reports several recommendations for fixing the problems were reported.

4 Conclusion and future perspectives

In this paper we have described the aim of the JamMo as a social integrative tool and the designers work with some children in developing a child-centred, pedagogically sound program for musical games in mobile environments. The results are preliminary and without any generalisation, yet. However, our research perspective has been focused on the child as a noteworthy participant in a software program development and a challenging end user. In the two reported studies children have been involved with a social integrative way towards the JamMo – the social integrative tool of music making from the first beginning of the study process. In early childhood research children's rights are highly appreciated. In UMSIC project we respect the child's voice and decision concerning her/his future activities in music and their quality and content.

Dr Oscar Odena (2007) has studied integrated music projects on the early childhood school sector in Northern Ireland. In breaking down barriers there are some recommendations he would like to apply even to the wider context like i) potential projects would maximize their impact if focused on younger children, ii) projects would need to offer something that entices children (fun), parents (quality) and schools (status), focusing on quality musical experiences, iii) schools in affluent areas seem to have less segregation and come together when they wish to do so. Therefore new projects would need to focus on schools in deprived areas.[13]

In UMSIC project the future impact studies are expected to be carried in many cultural and school contexts in project participant countries. The simple inclusive

features in the stand alone application for 3-6 aged children like to have a Teddy friend to join your activities and keep company with you will turn, with the 7-12 yrs pair game, public and networked applications to larger musical and social media communities. For the future music making JamMo is expected to bring more social integrative possibilities for young children.

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User modeling and user interfacing in a mobile online community for marginalized youth

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Abstract. This paper gives the reader an overall view of the User Modeling and User Interfacing technologies being used in the framework of the EU FP7-funded ComeIn project, and how they enable the project's objectives. The aim of the ComeIn project is to study and utilize mobile networks and cell phones as an infrastructure for social inclusion of marginalized youth in Europe, using video-content of eLearning and entrepreneurship nature.

Keywords: Mobile learning, User Model, Marginalized Youth, IMS AccLIP, Inclusion, ComeIn

1 Introduction

The purpose of ComeIn is to provide something customized for this marginalized segment of the population, based in the tool they use the most. These kids, until now, had to face the problem of lacking a social network specifically directed at them.

To achieve this, ComeIn is developing a networked media platform for the deliverance and exchange of this type of interactive media content, specifically aimed at marginalized youth, with the following goals:

- Providing groups of marginalized young people (MYPs) with a mobile online community they are able to use and can relate to.
- Generating and adapting customized content to facilitate social inclusion, in different regions, and across a variety of interest groups. Helping the MYPs generate this content by themselves.
- Analyzing the impact of ICT and mobile networks use by the MYPs and make recommendations for future research

In this regard, the contribution of this paper is the illustration of the main developments in the field for enabling the integration of this part of the European population through a mobile community.

2 Essential Requirements of the Community

To narrow and better focus the project's aims – this is, to specifically address the MYPs' own needs – a thorough study of the nature, origins, and future perspectives of the marginalized youth across Europe was carried out; along with telephone interviews with experts in the matter, internet questionnaires for the MYPs themselves, and four focus groups held in England, Ireland, Sweden, and Austria during 2008-2009, with in-person group activities. These tasks helped drawing a map of factors, definitions, educational constraints, and psychological states and needs concerning this specific target group, which we try to schematically reflect here:

- Definitions and factors
    - When speaking of marginalized young people in Austria, the ones with migration background seem to constitute a rather large group compared to other groups of MYP who are not as easy to identify.
    - In contrast to what was expected before starting the project, economic disadvantaged groups are not distinguished by the experts since economic factors are rather regarded as consequence than as cause for marginalization.
    - There is a lack of programmes and approaches addressing different groups of marginalized young people, especially the ones who are hardly visible or hard to reach.
    - Special offers to young marginalized women are needed as well. Especially young mothers need support and adequate offers, so they do not lose their connection to the education and labor system.
- Education
    - Rails for further development and career are taken early and often already at school. Supportive actions for students with difficulties at an early stage to prevent them from dropping out are needed.
    - Schools in Austria seem not to react flexibly enough to individual requirements. For instance, the current apprenticeship system in Austria prevents people from changing their subjects. However, chances for movement and change need to be enhanced.
    - Marginalized young people need particular support for developing perspectives. Thus, information needs to be given in advance to allow for building up long term perspectives. At the same time excessive demand by the plenitude of choices should be avoided.
    - Support should offer more than traditional role models and widen up views for more opportunities.
    - To raise the awareness of the value of knowledge and education as an instrument could contribute to a changed personal attitude towards learning.

    - Enhancement of media competences is seen as a basis since good jobs require media competences.
    - Being skilled in at least one language is regarded as essential. (The ComeIn platform is prepared to display its UI in both English and German)
- Psychological states and needs
    - New desirable behavior has to be learned and encouraged, MYP have to experience that their opinion is important, too. This should be reflected in the platform.
    - Many MYP show troublesome behavior and would need support in terms of conflict management. This should be reflected in the platform's management and operative roles available.
    - Low tolerance levels have to be taken into account in any offer for MYP. Otherwise they are likely to drop out very soon.
    - Inner-retreat and disinterest in social life cannot be met through usual consultancy or advice centres.
    - Advice for those young people who are going to step or have already stepped into a debt trap should be provided. For instance, those who are ready to invest more money in their technological equipment than they can actually afford, e.g. bills of their mobile phones.
    - There is a need for leisure time activities that do not cost money but offer more than just space.

The aforementioned tasks also helped drawing an essential features map for the system and the content characteristics, which included:

- Required information to be hosted in the User Model (UM) – as we will later see - and privacy aspects
- Guidelines for the User Interface (UI). And more specifically the evidence of the eLearning purpose without looking challenging, icon-based visual issues due to their low levels of literacy, community-centered design, and congeniality and self-demonstrativeness of the interface.
- Roles inside the platform, including those of the facilitators, moderators, administrators and MYP profiles.
- Technological characteristics of the content, besides an obvious quality level, which should feature the ability to be tagged, rated, marked or not as favorite, assigned to a group, responded, and exchanged accordingly
- Forms of interaction and a code of conduct, with close inspection from the moderators

Using this list of essential features, a set of specifications and a general architecture (Fig. 1) for the platform were designed. Such technological specifications were not far away from others found in commercial platforms, and included aspects related to:

- Video: High quality video storage, availability, and redundancy level. High quality video streaming, including dynamic adaptation for mobile devices and live transcoding

- User Model: Personal information, roles, privacy and group management inside the UM. Also, UM technologies for privacy, extensibility (ontologies), and sustainability of the results
- User Interface: UI technologies for maximum penetration in the MYP mobile market
- Communication protocols among blocks

As for the architecture, the reader will acknowledge three blocks: the ComeIn Web Server, the ComeIn Video Platform, and the UM Repository. SOAP through HTTP is used for the inter-block communications.

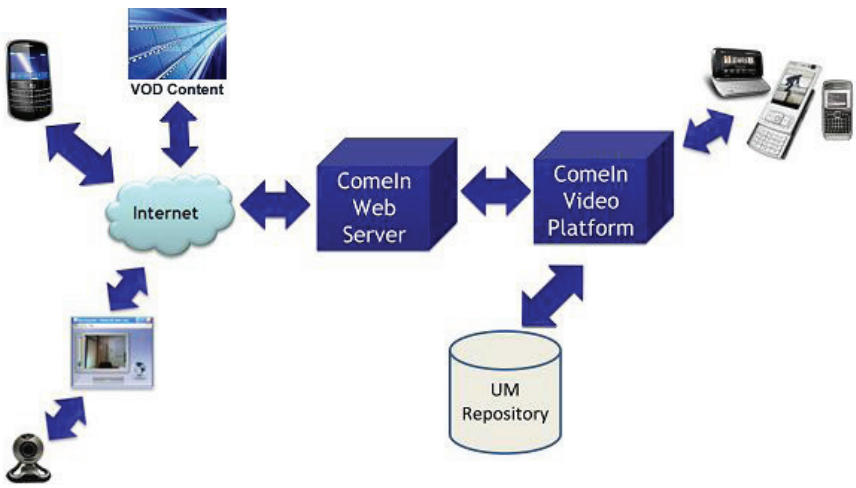

Fig. 1. ComeIn platform architecture

3 User Model and User Interface

After selecting which user data was of relevance for the ComeIn User Model, a State of the Art study in User Modeling techniques was carried out. Finally, an adaptation of the IMS AccLIP standard was chosen for the ComeIn UM, which included categories that allow the inclusion of data for modeling the MYP's goals, cognitive aptitudes, information about the videos they exchange, motivational states, friends inside the platform, background and possible experience, groups created in ComeIn, competencies, preferences and interests, affiliations, and factual and personal data. This approach is broad enough to be able to model the facilitators as well.

The breakdown into referenced structures is used to support variable granularity to facilitate efficient and flexible information exchange. Besides, other vertical categories have been integrated as metadata enablers for referential, temporal, and privacy information.

The leap forward that takes this theoretical image into reality has been taken gradually (see Fig. 2). The first thing to do is binding the UM description to a standard. This is done through an XML Binding - in a similar way as tackled in the original IMS AccLIP standard - which defines elements, attributes, and their content models. Now, delivering an only syntactic XSD/XML-based UM can be enough for some applications, but considering our target group as a very specific sub-set of the population we are trying to categorize, and our main purpose as trying to enable their social inclusion through (already existing – categorized – or not) eLearning multimedia content, it was decided to create an extensible, portable, more interesting for academic research, and sustainable model through the use of semantics.

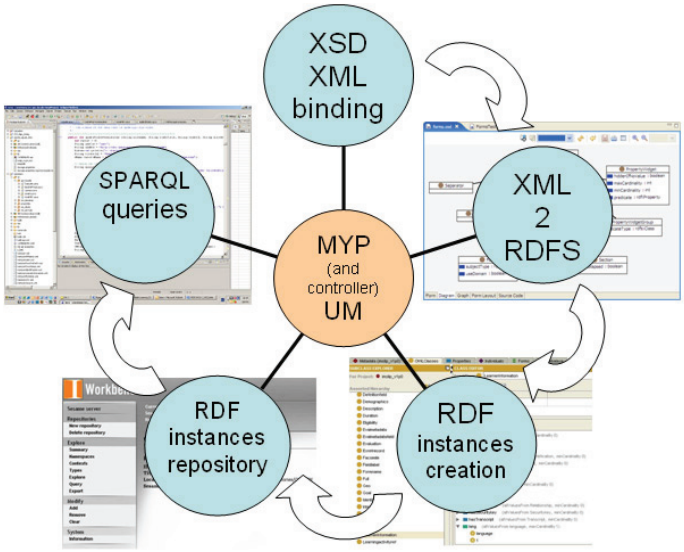

Fig. 2. Steps for the practical design and deployment of the UM infrastructure

RDF is a standardized top-level XML that can carry metadata and other elements that follow domain-specific schemata. It does this by qualifying its elements through namespace references to those external schemata. Being RDF the chosen standard for ComeIn, the second thing to do is to deliver an RDF Schema of the UM. To do this, the tool used was the Maestro TopBraid Composer, which is able to import an XML binding and to quasi-automatically transform it into an RDFS. Nevertheless, certain bits of the RDFS created with TopBraid were not totally accurate. To be precise enough, restrictions applied to some properties in the XML Schema were not correctly translated to the RDFS. Some minimum and maximum cardinalities were mistaken and had to be corrected. To fine-tune the eighty-three generated RDFS classes, Protégé 3.3.1 was used. This process was estimated to be shorter than creating the RDFS directly with Protégé from scratch.

Afterwards, the development team was in a position to create RDF instances of the UM; this is, to create a profile per each new user (per each MYP newly added to the community). Again, Protégé 3.3.1 was used.

The next step was to place all those RDF instances of users in a place where the system was able to query them, extract information, update the database with new facts, and create new users. This is when the SESAME repository came into the picture. Providing both a placeholder for the instances, and a SPARQL language java-based API to query them, it enabled the creation of a higher level API for direct communication with the Video Platform mentioned in Chapter 2.

This final UM API provides the methods for modeling and storing the MYP's behavior as *part of the community*, and as a *learner*. Namely, it is able to securely record and map actions such as creating and joining a group, uploading content to the platform, categorizing, rating, and giving permissions for such content, downloading content, establishing links with other members of the eLearning community, and retrieving information from such members.

Besides, it is also capable of storing and updating the kid's qualifications, personal information, interests and activities outside the community, and affiliation to other commercial social networks.

Accordingly, a usable and accessible mobile User Interface has been designed, where innovation has been partly ruled out in favor of considering the MYP's limitations and achieving the widest penetration rate possible - given the range of devices the MYPs use. This much iconised UI has been designed using standards for the creation of dynamic web pages. Embedding PHP in the web page code allows for delivering interactive and personalized content for each different user.

All web pages load each particular user's information from the UM through the UM API. To achieve this, all the information exchanged between the UM and the UI is tagged and encapsulated in XML files. Each of these XML files not only provides visible information, for instance the kid's favorite videos, but also metadata about this video, plus all the information needed for retrieving the video in case the user wants to stream it.

As the cornerstone of the ComeIn platform is the video streaming for sharing educational videos, most of the interfacing functionalities are focused on offering videos to the user. There are three main legs in the web: "Friends", "Videos" and "Groups". Also, a Home Page shows the last news and private messages. These "news" include all the new videos added to the system and/or to one specific group, and the new groups created, as exemplified in Fig. 3a.

The "Friends" page displays all the online friends in the network. By default, all users are friends with each other, so there is no need to add your friends. The user can also choose to see all the users of the platform (online or not). By clicking on a friend's name (see Fig. 3b), the user can see information about that friend and interact with him/her. This information includes a profile picture, this friend's favorite videos, and this friend's own videos. A blank space for sending him/her a message is also available. All sent messages must follow the ComeIn's netiquette and are moderated by the *moderators* of the platform.

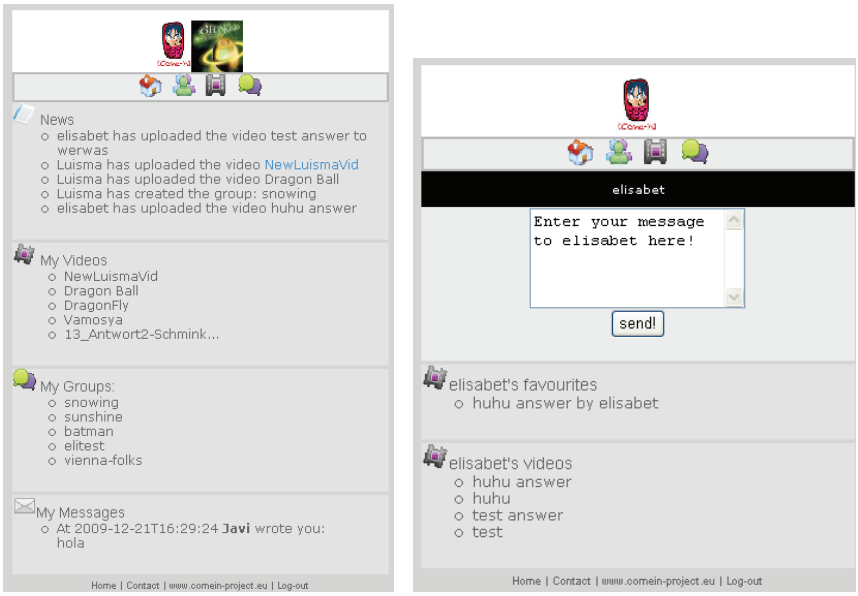

Fig. 3 a) Snapshot of the Home Page **b)** Snapshot of the "Friend" (elisabet) page

The "Groups" Page follows the same structure as the "Friends" page. It shows the favorite groups of the user but also has a link to a list of all available groups, which are eligible to be joined by the user. Once the user joins a group, he/she can upload videos related to such group's nature and assign them to the group, so everyone in the group can watch them and comment on them. By clicking on the name of a group, the user can see the individual group page of that specific group.

Once at the "Group" Page, the user can see who the moderators of the group are, and interact with them in the above explained way. It can be very interesting to send a message and get to know the moderator, and also to play more videos from that user. There is also a list of all the users that are members of the group but are not moderators, so the interaction is not limited to those that are. Also, a text box allows the user to post a message to the group's wall.

The "Videos" Page (Fig. 4a) displays the latest videos added to the system and the names of the users who own these videos. The user's favorite videos are also displayed and so are all the videos uploaded by the user, in a detached list.

The "Play and Rate" video page (Fig. 4b) appears when clicking on any video's name throughout the platform. Once the video is watched, the UI takes the user to the previous page, where the video can be added to the user's favorites or rated with 1 to 5 stars. A Youtube-like feature allows the user to respond to the video with another video. The response videos are shown in the section "Who responded to this video". A different list is "Who watched this video", which allows the owner to interact with other users who were initially interested in his/her video.

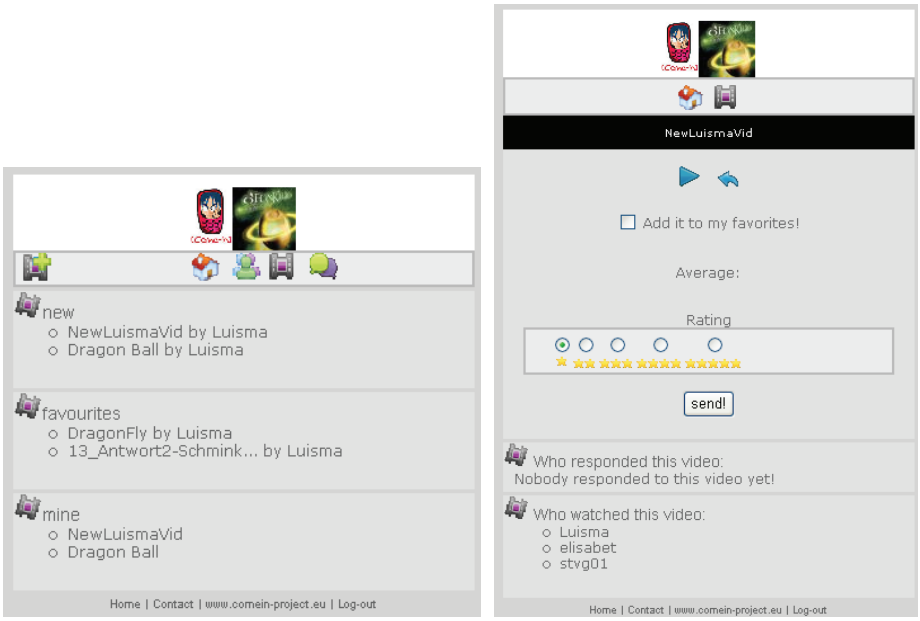

Fig. 4 a) Snapshot of the "Videos" page **b)** Snapshot of the "Play and Rate" video page.

When loading and playing the ComeIn videos, both the format and the quality and compatibility of the headsets are very important. The chosen streaming technology for ComeIn is 3GP, but FLV will be studied as a future option. FLV is one of the most popular formats in the web world, and it is being slowly adopted by the mobile market, too.

To allow playing streaming video in other players like QuickTime or Windows Media we would need to install some video-audio codecs. Nevertheless, all the new generation mobile phones include Flash Lite 3.0[1], very similar to the last versions of Adobe Flash for PC. FLV files are encoded with the Sorenson Spark codec that even allows adding extra contents to the videos.

4 Conclusion

This paper has introduced to the reader the main technological advances – in terms of User Modeling and User Interfacing – being achieved in the framework of the ComeIn project. In this regard, the User Model solution has been designed to be comprehensive and flexible enough to adapt itself to a standard MYP's needs, even beyond the perspective of the project. Changes have been performed to the IMS AccLIP standard in order to better tailor the marginalized kids' requirements, and

[1] Available at http://www.adobe.com/products/flashlite/

semantics have been added to the otherwise syntactic-only model. Also, a usable and accessible mobile UI has been designed, where innovation has been partly ruled out in favor of achieving the widest penetration rate possible.

Upcoming in-person pilots with the users will be able to further prove the adequacy of the system.

5 Acknowledgement

We would like to acknowledge the work of Zentrum für Soziale Innovation (ZSI, Austria – The Centre for Social Innovation), Steirische Volkswirtschaftliche Gesellschaft (STVG, Austria) and Inclusion Trust (I-TRUST, United Kingdom) in helping us compile the information included in Chapter 2.

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Identifying young people at risk of learning exclusion: evidence from the educational system in England

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Abstract. For an individual, exclusion can take many forms. This paper will focus on one form of exclusion – learning exclusion. It will consider factors that lead to learning exclusion in different contexts - in classrooms, from schools, from training, and from employment. While it will be shown that some details and certain statistics are known and recognized, and while certain methods are used to identify potential 'at risk' situations for young people, other questions and aspects remain unanswered. This paper argues the need to consider unanswered questions and aspects if those who work with young people are to have useful levels of understanding, to be placed in positions to support successfully young people who might be, or who are, excluded from learning.

Keywords: Marginalized young people; learning exclusion; identifying learning exclusion; learning exclusion factors.

1 Factors concerned with learning exclusion

Young people are at risk of different forms of exclusion– these include social, physical, emotional, and cognitive forms of exclusion. While it is recognized that factors and features that lead to one form of exclusion can also lead to exclusion in other ways, this paper will focus on exploring one aspect of exclusion in the context of the others – learning exclusion.

Learning access arises in a range of contexts that are generally chronologically sequenced for the individual: home and social contexts; classroom contexts; training contexts; and employment contexts. Teachers and support workers recognize that some young people are at risk of or are being excluded in certain ways from learning, education, training or employment, and that this can happen across a wide age range, from perhaps 9 years of age to 19 years of age or more. Exclusion from learning, that is, exclusion from involvement with cognitive endeavor, can happen outside as well as inside schools or other educational or training institutions (see Passey and Rogers [1]). This form of exclusion is not the same as exclusion from education, when a young person is physically excluded from an educational institution, often for the benefit of other young people and teachers or tutors within that establishment (see DCSF [2]). Exclusion can happen in a lesson without the pupil being excluded from school - when a pupil is 'day-dreaming', or is not able to focus on learning activities because of circumstances at a personal level, perhaps involving some level of background emotional trauma. As Collins [3] said: "the emphasis on physical truancy

masks an even greater problem in terms of those children who attend school but who play truant in mind". Exclusion from training and employment can again arise for different reasons, when, for example, a young person does not have sufficient background qualifications to undertake an aspect of training, or when a young person is located in a geographical area that is remote from an area where a specific form of employment of interest is to be found. Reasons why young people might be at risk of learning exclusion in training and employment situations are considered in Passey, Williams and Rogers [4].

In this paper, features that can lead to risk of learning exclusion will be identified using a categorization of factors (identified from sources indicated above). The categories that have been selected are:

- Physical disabilities or deficiencies– personal and individual attributes might mean that physical access is in some way or ways difficult or limited.
- Physical presence – for a range of reasons an individual may not be physically present within a particular learning context.
- Cognitive attributes – personal attributes and abilities may mean that certain types of cognitive interaction are not easy or possible.
- Social features – personal attributes may mean that social interactions with teachers, tutors or peers can be difficult or limited.
- Emotional features – a personal emotional state might mean that interactions or attention are limited.
- Behavioral features – personal behavioral attributes might mean that interactions or physical presence are difficult to handle.
- Geographic presence – personal location might mean that attendance is not or not easily possible.
- Attitudinal features – personal attitudes might limit levels of interest, attention or interactions.
- Opportunity factors – personal location or lack of attention might mean that opportunities arising in other places are not recognized and are not taken up.

2 Factors and their impacts on learning exclusion over time

Using this broad categorization, it is possible to identify more specific factors within each category, and to consider how each might impact on learning exclusion (whether from learning in classrooms, at school, during training, or at times of employment). The potential impact of each factor is considered and outlined in Table 1.

Table 1. Factors and their potential impacts on learning exclusion over time.

Factor	Potential impacts
Physical	It is known that **motor access** can lead to learning exclusion in classrooms and in training, and although devices to address these issues are used wherever possible, this cannot always alleviate lack of engagement. Many young people may gain access to learning in special schools and in specific sessions. Although employers will not discriminate against young people with motor access problems, they can be at a competitive disadvantage when seeking employment.

Physical impairments on their own are unlikely to lead to learning exclusion, but it may mean that young people are at a competitive disadvantage or not able to access certain areas of employment.
Levels of **visual impairment** vary, but these can have impact on learning exclusion in classrooms and in training. Again, competitive disadvantage could be a factor affecting those seeking certain forms of employment.
Levels of **hearing impairment** vary, and these can have impact on learning exclusion in classrooms and in training. Competitive disadvantage can negatively affect those seeking certain forms of employment. It is recognized that those with hearing deficiencies may be less qualified on average, as well as being at a social disadvantage.
Absenteeism is a temporary or permanent loss of attendance that can impact learning exclusion in classrooms, training and in employment particularly.
Exclusions from schools reduce attendance in classrooms and in training, although alternative provision for continuing learning is offered where possible.

Cognitive

Cognitive attributes can affect levels of qualifications gained, which can have impact in classrooms, training and employment. Limited qualifications can have major impact in terms of employment prospects or opportunities.
Dyslexia is a difficulty that can affect learning exclusion in classrooms, training and employment, particularly in terms of writing and literacy.
Similarly, **dyscalculia** is a difficulty that can affect learning exclusion in classrooms, training and employment, but related to mathematics and numeracy.
Asperger's syndrome can affect learning at all times, and because of associated behaviors, is a factor that can lead to school exclusion. The effects of this syndrome can impact employment in major ways.
In many cases, the learning of young people with **autism** is supported in special schools or through specific training sessions. However, this level of support is not generally available within employment, so young people can be at risk due to competitive disadvantage.
In many cases, the learning of young people with **Down's syndrome** is supported in special schools or through specific training sessions. This level of support is not generally available within employment, although young people with Down's syndrome are employed in a range of areas.

Social

Social deprivation itself does not necessarily lead to learning exclusion in classrooms or training. However, low levels of awareness and qualification that might be associated with social deprivation can mean that young people are at a competitive disadvantage in employment terms.
Marginalization can impact heavily on the individual and lead to learning exclusion in classrooms, training or employment situations. While marginalization can impact negatively in employment situations, on the other hand some employees find they can continue to work in spite of marginalization as their personal lives can compensate for this.
Criminal activity can impact for the individual, leading to either school exclusion or employment exclusion.
Drug and alcohol abuse can have impacts on learning exclusion in all areas.
Low social or communicative engagement can impact on lower levels of learning in classrooms, in training or in employment. While education and training attempts to address any shortfalls in this area, employment often requires high levels of social or communicative engagement.

Emotional	**Shyness** can impact on lower levels of learning in classrooms, training or employment, and lead to low levels of training or employment applications. **Withdrawal** can impact on lower levels of learning in classrooms, training or employment. **Emotional distraction** can impact in a range of ways, can be either short-term or long lasting, and can occur in classroom, training or employment situations. Choosing to be **elective mute** can impact on lower levels of learning in classrooms, in training or in employment. In online environments young people who are elective mute are not necessarily recognized in this respect. **Mental illness** can impact on lower levels of learning in classrooms, in training or in employment.
Behavioral	**Disruption** can have impacts on learning exclusion in all areas. This factor can impact others around the individual as well. **Aggression** can have impacts on learning exclusion in all areas. This factor can impact others around the individual as well. **Tourette's syndrome** can impact on learning exclusion in all areas. **Physical assault** can have impacts on learning exclusion in all areas. This factor can impact others around the individual as well. **Abuse or bullying** can have impacts on learning exclusion in all areas. This factor can impact others around the individual as well. **Sexual misconduct** can have impacts on learning exclusion in all areas. This factor can impact others around the individual as well.
Geographic	**Isolation** can lead to learning exclusion in terms of inaccessibility to training and employment opportunities. **Rural location** can lead to learning exclusion in terms of inaccessibility to training and employment opportunities. **Limited travel choice** can lead to learning exclusion through inaccessibility to training and employment opportunities. Some instances of young people being unwilling to travel from localities means opportunities can be reduced severely.
Attitudinal	**Disaffection** can impact on lower levels of learning in classrooms, training or employment. The individual may be able to accommodate dissatisfaction, however, without it becoming a deeper issue leading to more major forms of exclusion. **Disenfranchisement** can impact on lower levels of learning in classrooms, in training or in employment. **Disengagement** can impact on lower levels of learning in classrooms, in training or in employment. **Low literacy engagement** can impact on lower levels of learning in classrooms, in training or in employment. In some areas of employment, low literacy engagement is much less of a problem than it is in classroom or training environments.
Opportunity	**Lack of physical access** can lead to learning exclusion in terms of inaccessibility to training and employment opportunities. **Limited width of awareness** can lead to learning exclusion in terms of inaccessibility to classroom, training and employment opportunities. In terms of employment opportunities, young people with limited background experiences are likely to be at a greater disadvantage.

Timeliness of knowing when opportunities arise can lead to learning exclusion in terms of inaccessibility to training and employment opportunities. In terms of employment, timeliness is often quite crucial, and those who are not 'in the know' can find themselves at a disadvantage.

It is clear that all of these factors can impact on learning exclusion, although fewer of them impact directly on school exclusions. There are more factors that have major impact in the area of employment than in areas of learning, school attendance or training. Certain questions arise when considering this type of unevenly distributed pattern:

- Does it mean that at risk situations in each area of learning are fully recognized, and take account of the needs of at risk situations in subsequent periods of learning?
- What is known about levels of at risk situations that exist currently in each of these areas?
- Does it mean that if identification of at risk situations regarding learning is being made using those factors that lead to school exclusion, that other situations may be masked or not recognized?
- Do those young people who are at risk of learning exclusion through school exclusion go on to become those who are at risk of learning exclusion through periods of training or employment?
- For those factors that offer major impact at the times of employment, are these being adequately accommodated during earlier periods of learning in classrooms, schools and in training?

Knowing something about the levels of each of these factors is clearly potentially important, as the factors not only impact in different ways, but also require specific forms of support to alleviate associated at risk situations. Levels in subsequent sections are considered by using data from the educational system in England.

3 The total population of young people

The government department for education in England publishes annual statistics relating to young people who are registered in schools. The data in Table 2 show numbers of young people registered in each age group in each school group. These numbers would normally include those young people who would be in maintained and non-maintained institutions, in pupil referral units, short stay schools and hospital schools, as well as those excluded from school and in other situations that are either temporary or permanent. The figures for those who are home tutored are not known exactly, but estimates are provided in a recent report to the government department. All figures provided are rounded to the nearest ten by the government department

Table 2. Numbers of young people registered in educational institutions from under 2 years of age to 18 years of age, together with an estimate of those who are home tutored. (Source notes: 1 – DCSF [5], 2 – includes middle schools deemed primary schools, 3 – includes middle schools deemed secondary schools, 4 – includes hospital schools, 5 – average number from Badman [6].)

Age (year) group	Primary schools (1,2)	Secondary schools (1,3)	Special schools (1,4)	Home tutored (5)
NY1 and 2 (under 2-4)	285,420	630	2,200	50,000
R (4-5)	558,720	930	2,440	
1 (5-6)	548,100	790	2,930	
2 (6-7)	528,690	730	3,310	
3 (7-8)	531,330	800	3,850	
4 (8-9)	540,590	810	4,540	
5 (9-10)	533,830	21,980	5,210	
6 (10-11)	535,790	25,660	5,970	
7 (11-12)	5,760	559,500	8,910	
8 (12-13)	90	554,790	9,140	
9 (13-14)	20	561,080	9,770	
10 (14-15)	20	571,840	10,140	
11 (15-16)	20	565,010	10,130	
12 (16-17)	0	210,970	4,560	
13 (17-18)	0	162,960	3,810	
Totals	4,068,380	3,238,480	86,910	50,000

In total, the number of young people registered in schools up to and including the age of 18 years is 7,443,770. This does not include those young people less than 4 years of age who are not registered with a school or nursery provider, and may not include some young people who are homeless, or who are home tutored if the number is above 50,000.

4 Numbers of young people at risk of learning exclusion in each category

Although publicly accessible data provides details of numbers of young people within certain categories, much of these data provide figures that cover a number of categories, rather than specific categories. Table 3 indicates data available to support the identification of numbers of young people in each of these categories.

Table 3. Data giving numbers of young people within learning exclusion categories. (Source notes: 1 – Data for exclusions refers to numbers of exclusions and not to numbers of young people, as the same young person might be excluded on more than one occasion.)

Category	Factor	Available data
Physical	Motor access	Data are included within figures of those young people with specific, moderate, severe, profound, multiple or communication difficulties in special schools or those on a special needs register in mainstream schools (DCSF [7])
	Physical disability	25,840 learners in all schools (DCSF [7])
	Visual impairment	8,340 learners in all schools (DCSF [7])
	Hearing impairment	14,770 learners in all schools (DCSF [7])
	Absenteeism	Specific data is available about authorized and unauthorized absence
	Exclusions from school	In the 2006 to 2007 school year, there were 8,680 pupils permanently excluded (note 1) and 425,600 fixed period exclusions from all schools (DCSF [2])
	In prison	2,477 young people under 18 years (Youth Justice Board [8])
	Hospitalized	516,606 young people 5 to 14 years of age (NHS [9])
	Home tutored	An estimate of 50,000 up to 18 years of age, cf. Badman [6])
	In motherhood	Figures are included within the 208,000 young people 16 to 18 years of age who are NEET (UCU Briefing [10])
	Involved in family care	
	Homeless	The Poverty Site [11] provides figures for adults 25 years or over who are homeless and who have dependent children – while no figures are given as to numbers of homeless children, if one child per homeless unit is used as a means to provide an estimate, this totals 44,000 less than 16 years of age. There were 60,300 young people up to 18 years of age in care in 2006 (DfES [12])
Cognitive	Cognitive difficulties	Data are included within figures of those young people with specific, moderate, severe, profound, multiple or communication difficulties in special schools or those on a special needs register in mainstream schools (DCSF [7]). Other figures could be suggested by numbers who achieve low attainment levels
	Dyslexia Dyscalculia	Specific data are not available
	Asperger's syndrome	Specific data are not available, but these numbers may be included in the total for those within the autistic spectrum
	Autism	51,160 learners in all schools (DCSF [7])
	Down's syndrome	Specific data are not available

Social	Social deprivation	There were 1,103,310 learners in all schools in 2008 who were eligible for free school meals, but as a measure of social deprivation this is known to be unreliable (DCSF [5])
	Marginalization	Specific data are not available
	Language barriers	Although data on numbers of young people with English as an additional language are known, it is also known that this is an unreliable indicator. There are 862,860 learners in all schools in this category (DCSF [5]), while 104,350 learners are reported in all schools with speech, language and communication needs (DCSF [7])
	Ethnic and cultural barriers	There are 1,478,760 learners in all schools who have cultural backgrounds other than White British, but this is an unreliable indicator of being at risk of learning exclusion (DCSF [5])
	Criminal activity	9,650 permanent and fixed period exclusions in all schools for theft in 2006 (DCSF [2])
	Drug and alcohol abuse	8,580 permanent and fixed period exclusions in all schools for related incidents in 2006 (DCSF [2])
	Low social or communicative engagement	Specific data are not available, but based on a small number of teacher estimates averaging 20% of young people in a class, a speculative figure of 1,488,754 would include young people in these groups
Emotional	Shyness Withdrawal Distraction Elective mutes	
	Mental illness	For those who are hospitalized, the number would be included in the 516,606 young people 5 to 14 years of age (NHS [9])
Behavioral	Disruption	99,460 permanent and fixed period exclusions in all schools for disruption in 2006 (DCSF [2]), while there are 154,440 learners in all schools with behavioral, emotional and social difficulties (DCSF [7])
	Aggression	11,980 permanent and fixed period exclusions in all schools for damage in 2006 (DCSF [2]), while there are 154,440 learners in all schools with behavioral, emotional and social difficulties (DCSF [7])
	Tourette's syndrome	Specific data are not available
	Physical assault	100,100 permanent and fixed period exclusions in all schools for assault in 2006 (DCSF [2])
	Abuse or bullying	118,540 permanent and fixed period exclusions in all schools for abuse or bullying in 2006 (DCSF [2])
	Sexual misconduct	3,640 permanent and fixed period exclusions in all schools for sexual misconduct in 2006 (DCSF [2])
Geographic	Isolation	Specific data are not available
	Rural location	Specific data are not available, but postcode location could provide some indicators, although this may not provide a true picture of access to personal transport

	Limited travel choice	Specific data are not available, but it is known that this factor can be highly localized
Attitudinal	Dissatisfaction Disenfranchise-ment Disengagement	Specific data are not available
	Low levels of literacy engagement	In 2009, 343,903 learners gained level 2 qualifications in English and mathematics, while 576,132 gained a level 1 qualification out of a total of 634,507 learners aged 16 years. 58,375 did not gain qualifications, but these figures may not relate entirely to low levels of engagement (DCSF [13])
Opportunity	Physical access Width of awareness Timeliness	Figures are included within the 208,000 young people 16 to 18 years of age who are NEET (UCU Briefing [10])

Much of the data held currently on young people at risk of learning exclusion is locally held, rather than being aggregated, and even when aggregated this is not always done in ways that allow levels of support to be considered for specific age groups, for example. The numbers of young people potentially at risk of learning exclusion is startlingly high. However, it should be noted that many young people at risk are positively supported, and the number who move to being in risk is much lower (and often transitory rather than permanent).

5 What the data show about levels of factors relating to learning exclusion

Successive government departments in England have published statistics annually about numbers of young people within schools. In January 2009, the figures (DCSF [5]) indicated that there were 4,068,360 young people in primary schools (from under 2 years of age to 10 years of age), 3,256,120 in secondary schools (from 11 to 19 years of age), 85,390 in maintained special schools (across the entire age range), and 4,540 young people in non-maintained special schools (across the entire age range). This totals 7,414,410 young people. Certainly all of those in maintained and non-maintained special schools will be at quite high levels of potential risk at certain periods of time. This will total some 89,930 young people, about 1.2%.

Young people who are excluded from schools either permanently or for fixed periods are at risk of learning exclusion. Annual statistics for school exclusions from 1997 to 2007 (DCSF [2]) indicate that numbers of permanent exclusions over the period were reduced, and in the 2006 to 2007 school year, there were 8,680 pupils permanently excluded from all schools. As special school pupils have already been accounted for as at risk of learning exclusion, this reduces the number to 8,500 young people, about 0.1%. During the same school year, there were 425,600 fixed period school exclusions in total. Accounting for those in special schools, the number is reduced to 409,000 young people, about 5.5%. This figure is likely to be inflated, as some pupils will have been excluded on more than one occasion, however.

Some educationalists believe that young people who are educated as home learners are also at risk. Reasons for this risk are often quoted as being concerned with reduced social opportunity (some forms are listed in the tables above). Absolute numbers of young people in this category are not currently known, and while it is known that 20,000 young people are home learners, other estimates put this figure as high as 80,000 (Badman [6]). Taking a mid-figure estimate of 50,000 young people, this is about 0.7% of the total. Youth workers and some educationalists also include looked-after children (in local authority social care) as being at risk. In 2006, the number within England was 60,300 (DfES [12]), which is about 0.8%.

Taking all the above numbers into account, the total 'at risk' would come to some 8.3% of the entire school population. However, only certain categories have been accommodated within this total. The main categories that have not been accounted for are: absentees; those with low levels of qualifications that are not related to the factors considered; those who are socially deprived, or marginalized; those who are shy, withdrawn, mentally ill or elective mute; those who choose to travel within limited areas; those who are dissatisfied or with low literacy levels; and those with low levels of awareness of opportunities or knowing about opportunities in time to respond. These categories could be significant in terms of numbers. For example, some teachers report that perhaps 20% of the young people in their classes are reluctant writers and communicators. While this level would not necessarily be represented across the entire school population, it is clear that this number is likely to be high.

Numbers of NEET young people (also called 'drop-outs' in the EU) are reported within England. Data from National Statistics [14] show that the unemployment rate within the 16 to 17 year age range category has increased over a number of years, reaching a level of some 27% in January 2007. The unemployment rate for 16 to 17 year old males increased by some 10% over the previous 6 years, to a level of some 30% in January 2007, while the unemployment rate for women of the same age range was about 23% in January 2007. The same pattern was not shown for the 16 to 24 year old age range group, however. The percentage unemployment rate decreased (between 1992 and 2001) and then rose to a level of about 15% by January 2007. The pattern for the 18 to 24 year old age range is similar. By inference, this suggests that the unemployment rate in the 16 to 18 year old sector is relatively high, but that lower levels of young people who are NEET persist as they become older.

Is there a match between numbers or proportions of young people who are excluded from learning and numbers of young people who are NEET? This is difficult to tell, since the data retained on young people does not easily allow a monitoring of factors over time. However, it is certainly true that there are some similarities in terms of proportions overall (a level of 27% unemployment compared to 8.3% of the school population likely to be at risk and up to another 20% that teachers identify as being potentially excluded in classrooms from learning). There are also recognizable similarities in terms of gender differences. In special schools, for example, there are roughly twice the numbers of boys to girls, and certainly there are more boys who are excluded from school than there are girls excluded. In 2006, there were 58,900 boys in special schools compared to 25,700 girls (DfES [12]). In 2006 to 2007 there were 6,850 boys permanently excluded from schools compared to 1,790 girls (DCSF [2]).

Levels of educational attainment of those young people who are NEET are generally regarded as being low. Passey, Williams and Rogers [4] in their study of

uses of technology by young people who are NEET, gathered evidence from one geographical region that showed the numbers of young people with low levels of qualifications (see Table 4). These data indicate that more than 73% of the young people had below average levels of qualification (less than 1 to 4 GCSEs at C grade or above).

Table 4. Qualifications of young people who are NEET in one geographical region in England.

Qualification level	Total
No formal qualifications	305
No details	42
GCSEs Grade F/G	159
GCSEs D/E or equivalent	271
1-4 GCSEs C+	151
5 GCSEs C+/ or equivalent	112
A levels or equivalent	15
Total	1055

6 Identification of young people at risk of learning exclusion, preventative or reactive measures

Is there a follow-through, from those young people who are excluded from school or school-based learning, and who exhibit behavioral issues, to those young people who are NEET? Some schools and local authorities (LAs) are attempting to address a longer-term follow-on issue by putting preventative measures in place. One LA, East Sussex, is identifying young people at risk using a method called RONI, highlighting those individuals where at least four key factors from a list are triggered (Czone [15]):

- Attendance (when it is less than 85%).
- English as an additional language (EAL) as this may limit access to other areas of learning.
- Exclusions (permanent, or fixed term when there are ten or more sessions).
- Free school meals (FSM) as an indicator of social deprivation.
- Attainment results at Key Stage 1 (below the average of Level 2), Key Stage 2 (below the average of Level 3), Key Stage 3 (below the average of Level 5) for mathematics, reading and writing, and a grade U at Key Stage 4 (across all subjects).
- Looked after children (LAC).
- Special educational needs (SEN).
- Traveler children, who may not attend for long periods of time during a year.
- Medical conditions (that affect learning and attendance).

If this list of factors is compared to the original list considered at the outset of this paper, then it can be seen that only a few factors that could lead to at risk situations with regard to learning exclusion have not been accounted for within the RONI method. The factors not accommodated within this method are: cognitive deficiencies that would not necessarily lead to a statement of educational need (such as dyslexia or

dyscalculia); marginalization; low social or communicative engagement; shyness; withdrawal; distraction; mental illness (although this might be included within the realm of medical conditions); geographical isolation; rural location; limited travel choice; dissatisfaction; width of awareness of learning, training and employment opportunities; and timeliness as a means to pick up on training or employment opportunities.

But are we sure that those who are at risk and excluded from learning at certain times are those who become longer-term excluded in terms of being NEET? Some teachers say those who go on to become NEET are those with behavioral issues, while some careers advisors say it is the 'quiet ones' who may be excluded. These groups do not necessarily match. The fact that there are also far more young people who are 16 to 17 years of age who are NEET compared to those who are over 18 years of age, also suggests that there are specific reasons for the 16 to 17 year old age group being NEET. Certainly some young people at that age take a 'gap year', while others are looking to gain entry to alternative training or employment. Sometimes this takes the form of practical, social or creative endeavor that has not been provided for in their school-based education, while for others it is a matter of securing part-time, short-term or longer-term jobs that provide them with an income in what they would regard as 'easy work'.

7 What do we need to do?

What we need to do, to be more certain, is to monitor and gather more research evidence. How we can do it is relatively easy, by asking careers advisors to check with schools against the factors identified here, to see if there is a match. We also need to know who might have been excluded at certain times, but who at a later time might not be NEET. Until we have a robust set of data, comprising at least a sample of 500 from 6 different localities, it will be unclear that we know whether we are looking at a pattern or a mismatch. What is sure is that we need to know who is at risk of learning exclusion and why, so that we can identify appropriate measures and interventions to prevent this happening both in the short-term and in the long-term.

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Offline Youth and the Digital Divide: Revisiting the Concept of "Digital Natives"

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Abstract. Because "offline" young people – i.e. non-users or rare users of the Internet – are a small minority in their "digital" generation, they are confronted with an increasing risk of marginalization or exclusion. The paper focuses on the risks of e-exclusion among young people between 16 and 25 years, i.e. the youth in transition between adolescence and adulthood. It is grounded in an action-research carried out in Belgium. It leads to reconsider the concepts of e-inclusion and e-exclusion among the youth, beyond the dichotomy of the digital divide. Young people in this age group are confronted with conflicting norms coming from their digital practices and from the requirements of the established information society. Facing this tension, offline young people are more vulnerable than others. Specific policy measures are needed for this particular target group.

Keywords: ICT non-users. Digital inequalities. Youth policies. e-Inclusion.

1 Introduction

There is but a poor understanding on the way young people experience and make use of the Internet so far. The lack of attention for their e-experience and e-competences is mainly due to the general acceptance that the Internet generation consists of e-experts. On the other hand, when their usage is scientifically registered and studied, data often reveal flagrant lacks of digital competences. The reason for this discrepancy mainly lies in the absence of adequate tools and criteria to draw a more balanced picture of their e-knowledge and e-competences. When measured with the standards derived from the e-world of older adults, the younger most often show very poor results as far their acquaintance with ICT is concerned. Through the research results presented in this paper, FTU would like (1) to contribute to a more objective view of the e-knowledge of young people between the age of 16 and 25 years, and (2) to make public authorities, the education system, and all those who accompany young people, more aware of the difficulties experienced by young people when they have to transit from "adolescent" to "adult" e-practices. With regard to their risks of e-exclusion, these young people require, more than other target groups, specific attention and measures that have most often been lacking so far.

2 Aims and Scope of the Research

Young people are often said to be experts on the computer and the Internet. Nevertheless, according to Eurostat and Statbel survey data, there still exists a small but significant minority that has no or rare access to the Internet or is lacking the competences to do so. These young people are called "offline youth". According to Eurostat 2008 data, only 75% of 16-24 young people are daily or almost daily Internet users, while 9% are non-users or rare users (not during the last three months); the remaining 16% are irregular users (less than once a week).

In order to develop adequate policies addressing the digital divide within this target group, the Belgian Federal Ministry for Social Integration asked FTU to investigate this target group. The research had to focus on youth between 16 and 25 years, as recent studies had already been carried out on children and teenagers within other research programmes in Belgium. So far very little research addressing the digital divide has been done concerning this age group. Moreover, what differentiates this age group from (for instance) teenagers, is that this age group is experiencing significant life transitions: those young people are leaving the education system, entering the labour market, becoming more independent from their family and engaging in autonomous and adult life.

After a thorough desktop research on existing literature and statistics, of which the details can be found in our research report [1], a series of workshops and interviews were organised with social and educative workers who are in charge of vulnerable young people in this age group. Initially we addressed youth organisations or youth services that had ICT training programmes for this age group. Nevertheless, in order to reach out to the target group, we very quickly broadened the interaction to a representative sample of organisations an institutions that are in charge of wider initiatives reaching those young people, regardless their existing concern for digital exclusion within this age group.

Through these interactions, the research team was able to challenge the existing scientific data as well as the widespread preconceptions on the e-knowledge of the so-called "digital generation".

3 Research outcomes

3.1 False Preconceptions

Like most research concerning the digital divide, our research started with the preconception that offline young people would be more easily found in economically and socially underprivileged households. But through the interactions with educators and fieldworkers we soon became aware that e-exclusion amongst the youth is due to a wider variety of causes. Hence, unlike older offline people, offline younger between 16-25 years are not a homogeneous group. A diversity of circumstances, such as the lack of e-culture of their parents, the family structure and relationships, the poor quality of housing, the precarious living conditions, lay at the origin of e-exclusion of

young people. Due to the very divers and specific circumstances that keep them offline, they call for a more individualised approach, which takes into account the very particular contextual causes of their e-exclusion.

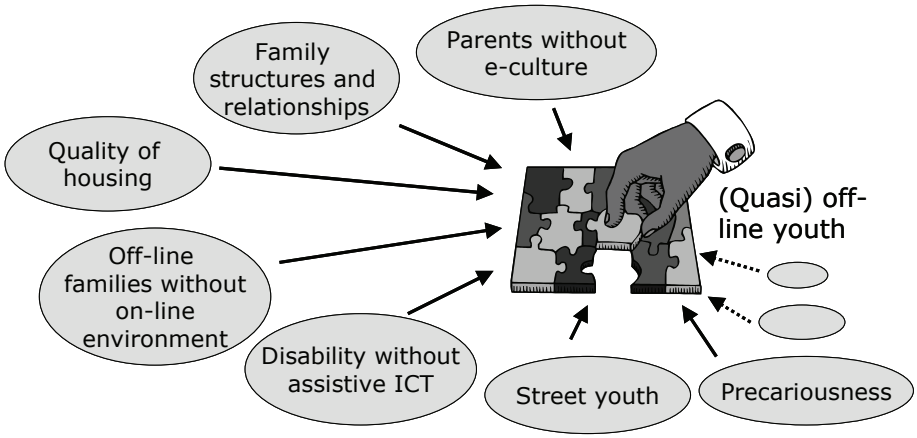

Figure 1. The diverse reasons for being (quasi) off-line among 16-25 youth

Another characteristic of young people of this age group is that, unlike in other age groups, there is no direct or causal relationship between their opportunities to physically access the Internet at home and their e-competences. Since the Internet is part of their youth culture, young people will most often find access to the Internet on a variety of locations, even in the absence or unavailability of ICT infrastructure at home.

Beyond the particular cases of offline younger, the participants at our workshops reported that almost all young people in this age group are anyway familiar with the computer and the Internet, with the restriction that their knowledge does not correspond to the requirements of the education system and the labour market, and is most often not understood and taken seriously by the adult world. As some of the workshops participants and interviewees pointed out, the obvious discontinuity between the e-practice of young people and the e-practices expected by economy and society might be a stronger explanatory factor of the e-exclusion of young people than classical socio-economic factors (gender, income, level of formal education, socio-professional category, etc.).

3.2 Different worlds of Internet usage

Since it was reported that only a very tiny minority of younger were not familiar at all with ICT, and that the problem of the large majority of young people consisted in their difficulty to respond to the demands put forward by education and the labour market, it became obvious that we had to approach the problem of the e-inclusion/e-exclusion of young people from a new and different perspective.

We first examined more closely the e-culture of youngsters and their usage of the Internet, before singling out the factors and circumstances that might put them in danger with regard to their abilities to establish a transition to e-knowledge and e-practices that are expected from them in the current digital society.

As is shown in figure 2, the e-world of young people (16-24) differs radically form the practices of the following age groups (25-34 and 35-44). While the younger are more frequently users of the upper items of the graph (related to communication and entertainment), they are generally less using information and transaction services than the older (or less young) age groups.

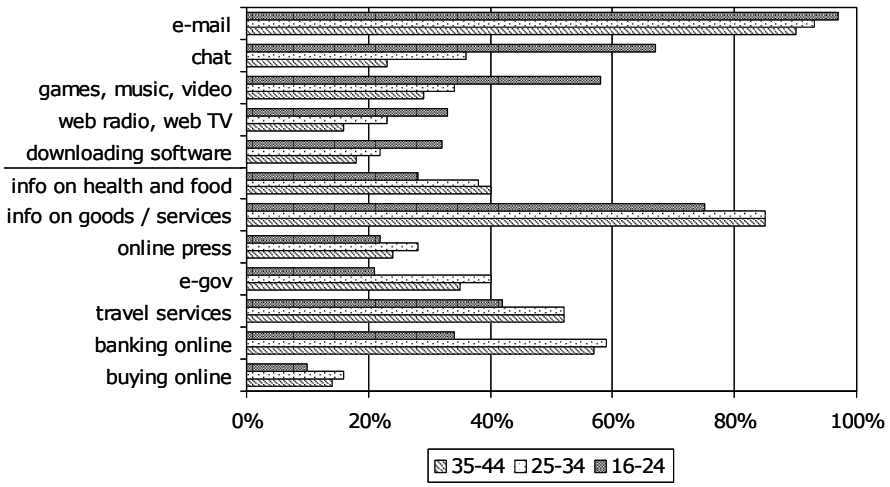

Figure 2. Percentage of users of various online services according to age groups (% of internet users within each age group)

Although their usage of the Internet is very leisure-oriented and they consider above all the Internet as an extended chat room, special attention must be drawn to the fact that those practices, which apparently look like a futile pastime, are actually important for the construction of their own identity. For young people, e-exclusion means in the first place not being able to share their experiences with their peers and to participate in e-youth culture. The way policy and society consider e-exclusion is still most often a lesser concern for them. Conversely, lacking the e-competences to share the youth culture is felt as shameful. Very much alike adults who have difficulties in writing and reading, young people will develop stratagems to hide their lack of e-competences and find it difficult to confess their inaccuracy.

Finally, the e-knowledge and e-competences of which young people dispose to interact and participate in e-youth culture were mostly acquired through interaction with their peers. The school system at large remains absent in this field.

3.3 No Clear-Cut Divide, but a Continuous Spectrum, Polarised between two Norms

If we present the e-knowledge of young people as a continuum, we can clearly see that there are significant discontinuities and fractures at both ends of the spectrum. At one end of the spectrum, we will find those who have material difficulties to access the Internet and have poor e-competences. They suffer a double e-exclusion: they experience difficulties to participate in the e-culture of the youth and they have no competences enough to access the e-world of the adult society. At the other end of the spectrum, we will find a group of younger who can easily bridge the gap between their e-world and the "adult" e-world. Between those two extreme groups, we find a much larger group of young people who are either not aware of their risk of e-exclusion or avow their lack of e-competences to access the e-world as expected by economy and society.

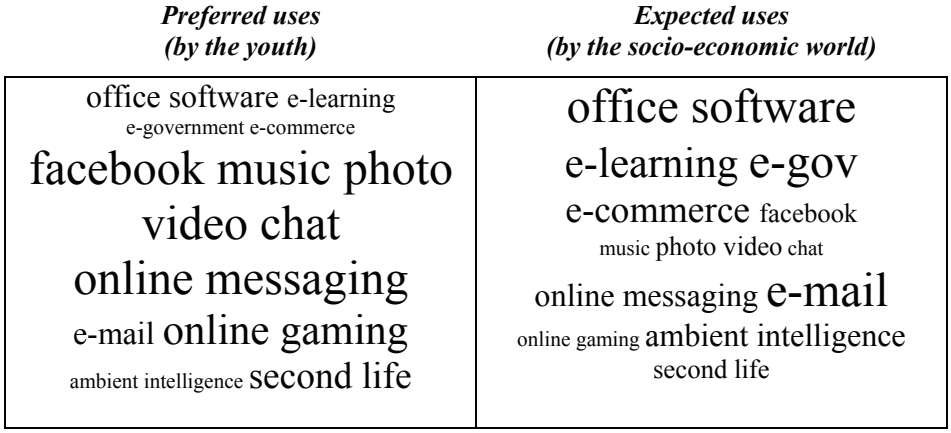

Figure 3. Preferred uses versus expected uses from the socio-economic world, presented as clouds of tags.

More generally speaking, too little attention has been paid to the specificity of the e-world almost all young people are sharing. For many grown-ups, the youth e-world still appears to be a foreign and ill-known territory, with little links and little interest for the formal e-world of adults. If Prensky [2] considers youngsters as e-experts, it must be because their e-expertise is restricted to this particular territory. In his article, Prensky also suggests that the e-expertise of the digital natives is the result of young brains that are already differently wired. But that explanation is too grossly a shortcut to satisfy anybody who is eager to understand the e-world of the so-called Internet generation. What remains tough worthwhile in Prensky's message, is that the Internet generation is at the vanguard, their e-practices will probably deliver future standards of appropriate e-practices. But for the time being, young people will have to cope with the existence of double and conflicting norms, if they want to respond to the expectations of society and economy. Finally, the existence of this double system of social norms should incite researchers and fieldworkers to revisit and to handle with

care and circumspection the concepts and instruments with which they measure e-competences.

3.4 How to Bridge the Gap

Over the last years research has however gained a better insight in the way young people experience ICT [3, 4, 5]). Conversely, schools and youth organisations still have little knowledge of the youth e-world. They are but poorly aware of the effects the Internet on their socialising process and on the construction of their identity. And the idea that their e-competences might not be sufficient to compete on the labour market did rarely lead to measures that would facilitate the migration from their e-world to the e-world of the socio-economic world.

It is only the group of the better-educated young people who succeed by themselves to operate the conversion from one e-world to the other. The majority of young people experience more difficulties to transit to the "socio-economic" e-world and will need some kind of assistance. To bridge the gap between these separate e-worlds, the awareness of the difficulties that young people are experiencing to respond to socio-economic expectations must be significantly risen and efforts to take concrete action displayed.

The participants at our workshops, who are pioneering in this field within education and youth sector, hold a strong pledge for policies that would address the risks of e-exclusion that young people encounter when they migrate to the e-world of socio-economic actors. But these measures will be successful on the condition that people who are in charge of youngsters within schools and the youth sector are educated to take up this role, which is not the case today.

It also becomes apparent that young people are deserting the existing open access infrastructures, which provide the general public with an access to the Internet, mainly because they are ill adapted to their demands. Open access infrastructures should be more embedded in places where young people already meet, and where they are sufficiently confident to overcome their shame and ask for individual help when necessary. Finally, measures and methodologies to assist young people in their migration to the e-world of the information society will be successful but on the condition that they give more value to the existing e-competence of young people.

4 Conclusions

The action-research FTU carried out for the Ministry for Social Integration was meant to propose concrete measures to promote the access of the so-called offline youth to the information society. As we discovered the landscape of e-youth culture through both desk research and interactions with the fieldworkers, we pretty soon had to revise the research approach and to correct a series of preconceptions.

Offline young people are not necessarily to be found in underprivileged households. A series of very particular reasons explain why they are still disconnected from the information society. This very small group of young people – their exact

number still stands under discussion – calls for an individual approach that takes into account the particular context of their e-exclusion.

Concerning scientific data, we are now aware that the statistical picture of the e-connectivity and e-competences of the age group 16-25 is often too inaccurate to build firm assertions upon. On the other hand, many scientific insights about e-youth were corroborated by our interaction with field workers. Surprisingly, much of this knowledge has remained confidential so far. A long work of dissemination of these findings and awareness building of educators and youth workers still lies ahead.

The main conclusion of our research is that the digital divide of young people in transition cannot be reduced to a small group of totally offline younger. The large majority of young people need appropriate assistance to migrate successfully to e-society – as expected by the social norm of the information society. Today, in Belgium as well as in the rest of Europe, there are very few policies and measures that sustain this "migration" process.

The objective of our research was to contribute to a more objective picture of the strengths and weaknesses of young people with regard to the expectations of the labour market and socio-economic actors. Moreover, we wanted to make public authorities aware of the risks of e-exclusion of those young people. If the positive response of public policies to our research can be a touchtone for its quality, we can praise ourselves lucky. Subsequently to our research, the Belgian Ministry of Social Integration launched a call for proposals for field initiatives, in the directions recommended by our research. We do hope that this initiative can help those who are pioneering on the terrain already, and will prove to be a good incentive for others, for most of the work has still to be done.

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Cyberhus:
Experiences and Lessons from Online Counselling.

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Abstract. This paper details some of the experiences and lessons learned by Cyberhus, a Danish club for kids and teens on the net. Details on design choices and site structure are given, as well as the basics of the professional approach taken in our various counselling services, which include peer forums, question and answer columns and one-to-one chats. The peculiarities of online counselling are explored by contrasting with our next project, When Home is Away, a social networking service for youths moving out of full care services.

Keywords: Online counselling, counselling chat, social networking service.

1 Introduction

In the following, Cyberhus and our experiences from counselling children and young people online will be presented. The focus will be on our beliefs about best practise in the field of online social work, primarily by giving specifics about our design choices and detailing the professional approach of our various counselling methods. These lessons will then be highlighted by showing their relevance to our next project, When Home is Away. To understand the background for the decisions and experiences that will be explored, here follows a short introduction to what Cyberhus is and does.

2 Cyberhus

Cyberhus is an online counselling service, offering anonymous, general counsellings and help: no matter the type, severity or specifics of a given problem or question, it is welcome in either our chat, a question and answer column or forum. Organisationally, Cyberhus is a part of Youth Welfare, a hundred year old non-profit that runs full care homes, counselling groups, schools and local drop-in clubs for disadvantaged and vulnerable children and youths. Cyberhus was actually created as such a club in 2004 because there was a need for dependable and engaged adults in the new arena where young people live their life and have their ups and down; the net. We have our own technical team that both oversaw the creation of the initial site, our move to the Free Software CMS platform Drupal and offers in-house support and development. Financially, we have been supported by the Danish Ministry of Social Affairs and per-

project funding - this has allowed us to grow, both with regards to new projects, but also expanding the number of counsellors. In 2009, this resulted in more than fifteen hundred chat sessions and almost a thousand answers to specific questions. We have, unfortunately, not had the funds to investigate the effects of our counselling - something which is exceedingly difficult as our users are anonymous. What we do know, is that we engage with thousands of young people and let them open up about their problems, while giving them the encouragement, tools and knowledge of real-life help around them, which they need.

2.1 The House and Club Metaphor

When we say that Cyberhus is 'a club for kids and teens on the net', we are of course speaking metaphorically. We also establish this metaphor by name (the 'hus' in Cyberhus means house in Danish) and our site design. When visiting Cyberhus, your primary way of navigation is a graphical representation of a house with various rooms that correspond to relevant subjects, such as a kitchen with advice on food, health and problems pertaining to body image. This division of subjects is intentionally both broad and vague; no matter your question, it will seem to fit in some room and its questions and answer columns, and nothing is so specific that you need to find the exactly right place. Our topics are, of course, also based on our past experiences and knowledge about what is in demand, and can shift quickly according to changes. The house and club metaphor is intended for its connotations of a secure home, and the reassurance of adult presence. Many vulnerable youths already know and value such clubhouses for the controlled social aspect, the ability to drop by on your own time and, maybe most importantly, that any help is offered on a strictly voluntary basis.

2.2 Cyberhus' Counselling Services

Under this structure, we have various forms of counselling. Most directly connected to the rooms and their subjects, are our question and answer columns. Volunteers from relevant walks of life share their expertise about music, legal issues, sexuality, etc. - all under supervision of our full-time counselling coordinators. Some problems may seem trivial, but we believe that if a question is pressing enough to ask, then it is worth answering. We also experience that e.g. a question about an infatuation can lead to a discussion about a problematic social life. In such cases, we will often refer to our one-on-one chats, to ensure a more personal and in-depth approach. The other counselling form where this happens often, is our peer-to-peer forums. These are basic forums where anyone can post, as you would see on any number of websites, but of course monitored by our staff. Our interventions are rare, and are mostly about acknowledging that a given young is seeking help and pointing in the right direction, especially if for some reason no one else answers in a given thread. Hardly ever do we need to edit a inflammatory or otherwise problematic post, except to remove a name,

phone number or email. A good metaphor for our forums is that of meeting to talk at a youth club; although no adults are directly interacting with you, the atmosphere and discourse is serious, helpful and adult in tone. Our questions and answer columns would, in this comparison, be equivalent to realising that you need adult advice. Where relevant, certain subjects will have additional content, such as helpful articles on a subject, links to further knowledge or help, a place to get your story off your chest, and blogs. This various widely with the topic; the art workshop, for instance, allows you to draw or upload pictures, for when what you want to express cannot be said with words. Finally, and maybe most importantly, there is our counselling chat. Whereas the rest of Cyberhus is open around the clock, the chat opens Monday through Thursday, in the afternoon and through the evening. The chat function is not tied to any subject or room, but is accessed through an icon at the top of the page, changing depending on whether the chat is open, closed or busy. A counsellor can only log in from our offices, and is always on duty with at least a paid supervisor, ensuring no one is alone and unsupported. Everyone in the chat has gone through a training program with our full-time staff, and is studying or working in a relevant field. The anonymity of both counsellor and the child or young person at the other end, is guaranteed by running the chat through a third-party server, meaning we cannot find so much as an IP address, even if we tried. We are extra careful with our chat, because its subject matter is often the most severe problems facing children and young people: thoughts of suicide, eating disorders, deliberate self-harm, incest and other problems no one should face alone all top our list of commonly treated topics. Consequently, we rarely 'fix' a problem in the chat; we aid in realising what the problem is, how serious it is and provide personal encouragement in seeking help from ones family, school or social circle. When this is not an option, we refer to our separate service findhjælp.dk (meaning 'find help'), where a simple map allows you to easily find local and free crisis help, counselling or therapy.

2.3 The Particulars of Online Counselling

These specifics reveal how the metaphor of a local club works, and where it breaks down. A website is by definition not local, nor can we offer anything resembling the social venue that a real life club can be - and for the same reason cannot maintain a continuous, personal relationship with the individual user. All of these differences from a 'real life' youth club are, in the end, related to the total anonymity we can offer on the net. To those young with the most serious of problems, or just ones that seem especially embarrassing, just showing your face or having to talk over a phone is simply 'not anonymous enough'. There is no login required to use Cyberhus, and on a net where almost every service requires separate sign-in credentials, this sends a powerful signal of trust and that we want nothing from the children and youths. Along with the total anonymity afforded, this puts the user in control at all times. These choices that empower our users are not accidental, but are part of our basic approach to online counselling. When it comes to the more serious problems, common especially in our chat, we want to provide help and support in taking the first step towards resolving the situation. Online counselling cannot ever hope to solve

something as grievous as sexual assault, or as complex as a problematic placement in a foster home. But what we can give, is a place to vent sorrows and frustrations, and maybe figure out what is needed to improve ones situation. It is precisely because the child or young person has control over the situation, that they have the courage to seek us out. And because we cannot enforce any advice, and do not hold any authority over them, our approach must be soft-spoken and one of encouragement. When we do disagree outright with a statement, or make a claim about right and wrong, we do so from a position that is inherently equal. Our counsellors are volunteers, and the child or young person can leave at any time. Our advice is accepted only on its own merits, and because it is respected that here is an adult who is genuinely interested in helping me and nothing else. Because of the voluntary aspect and the media through which we interact, Cyberhus' counsellors are different from other adults around them, who will often hold some degree of power that is, or is seen as, oppressive. Putting the child or youth in control also implies a promise that all possible subject matters are acceptable. Again, this is by design and in fact goes hand in hand with the basic design choices mentioned above; there is always somewhere your question will fit in, and every topic serious enough to bring up is welcome in the chat. One might suspect this means that we have to deal with a lot of trivial issues, but even the most obvious of answers is less than trivial to some. If you have to ask what seems obvious, it is often because there is some dysfunction in your home or school that means you have nowhere else to ask, or because you have been forced to deal with issues not common for your age - all target groups we want to encourage in their use of our services. Also, a lot of our users have to edge up to the subject, or do not even know that their seemingly minor problem is part of a larger one. You may need to talk about your tummy ache for quite some time, before you are willing to discuss how the knots in your stomach occur whenever dad is drinking. A further consequence of this, is that we have to be open to anything; there is no way to know what questions about teen pregnancy are based on curiosity, considerations about a possible abortion, or incest. The media with which we connect to the kids is poor, compared to a real life talk - we have no body language, intonation or social class to go on, not even basic knowledge about age and gender. Our most basic approach to a chat or problematic question in an advice column is therefore that all sessions are unique. This forces us not to make any assumptions, but also to constantly enquire even basic facts of the child or youth in question, and encourage them to open up. We believe that this is a good and empowering exercise in itself; we have had children tell us that they would never be able to mention the shameful problem under discussion, only to realise that they just did. Another way in which the limitations of the media is an advantage, is how it is experienced from the child or young person's perspective. A chat window is, at least before the conversation gets going, empty and without the tangible feel of another human being interacting with you. There is a social dimension lacking to online communication, and a lot of ink has been spilled over whether this makes it a poor media for socialising or how it makes it easier to ignore basic social mores. The consequences of calling someone names, threatening or uploading a given picture is not perceived as quite so real, because there is no other person in front of you. These same mechanisms, however, can work to our advantage. It is easier to admit to a problem, or ask an embarrassing question, when there is no danger of blushing or having your voice break. It is a strength to our work, that one can close down a chat

with a click, or chose to ignore an answer in an advice column without anyone knowing it was a conscious choice on your part. The feeling of sharing and communicating with another human being does of course arise during a chat, and hopefully in the responses given in our question and answer columns, but as detailed above it is something that is build up slowly and only when the child or youth opens up to those feelings. In a perfect chat session, a child started out hesitantly typing some problem into an empty chat window, and ended up having confided and having been helped as a result.

2.4 Cyberhus' Goal and Niche

In conclusion, we believe our design and features have been refined to take advantage of the traits that are peculiar to online communication, or, metaphorically, 'cyberspace'. Our own metaphor of a club house is not just a gimmick, but invites a certain way of thinking about our service; it works inside the heads of the users too, so to speak. This can be seen, for instance, on our forums, where abuse is rare and often dealt with by our users themselves in a helpful and adult tone. These clear signals do, in part, make up for having to counsel without the rich social media that is body language, physical proximity and voice inflection, and while being unable to identify or differentiate individual users. We are aware of both the challenges and opportunities this gives rise to, and have decided on an approach that is as open as possible towards whatever the child or young person brings. We often experience, both in mundane and the most grievous of situations faced by a child or young person, that the important factor is personal encouragement to act and be proactive - the informational content of our response might be more readily available elsewhere or already known, but the personal assurance that a course of action is applicable to oneself is essential. We can be that personal encouragement, to those who have no other sources for such help, or lack the courage to seek it out. In Cyberhus' particular manner of contact with children and the young, we cannot offer actual therapy, but a sympathetic ear and encouragement; consequently, our goal for the more serious problems is always to find more permanent and local help.

3 When Home is Away

Cyberhus runs or gets involved in, many other projects, when we believe they can benefit from our expertise. For instance, we are the Danish Helpline in the Insafe network, and we run school visits and parents nights where we teach and discuss web ethics. Our most comprehensive new project, When Home is Away, directly draws on our counselling experiences and aims to expand these to bring other professionals in touch with vulnerable youths online. The project is currently in its pilot phase, and we hope to show that there are additional opportunities to produce positive changes for the vulnerable through the net.

3.1 A Social Networking Service for Social Work

While Cyberhus' defining feature is providing anonymous, general counselling and help, When Home is Away is a social networking service for a specific segment of identified users. These users are to be young people around the age of eighteen, who are leaving full care services such as group homes or foster care, and are building their first home away from home. In this critical period of anyone's life, youths without a family to support and help them are even more in need of support from their existing network. We aim to create such continuous, informal contact between the young and their former institutions and caregivers by giving them all profiles on a 'micro-community' built for that specific purpose. The service is, of course, not meant to replace actual physical visits, or other forms of contact that have been instituted to help the young in the new situation, but should supplement these. The pilot version of the network sports a private 'guest book' for communication with one's adult contacts, a calendar to support giving guidance in planning one's day, and a public 'wall' as well as forums to foster supervised communication between users.

The most basic effect we believe this will have is a 'softer landing' in ones new home and life. One or more of the adults you knew and trusted will follow you on the network as supervisors and with very few actual man-hours maintain a certain level of continuous contact. The important thing is that the move is not felt as quite so sudden a break as it otherwise would, and the same is true for the inevitable changes when the physical visits or other help is withdrawn or decreased in intensity. As with most design choices in Cyberhus, the goal is a feeling of control; if you need more or less contact with your old home in a given period, you can regulate it freely. The adults around a given youth should, however, work for a minimum level of contact, at least initially. This should ensure that if the youth in question encounters some sort of crisis, it will feel natural to ask for advice or help. Instead of having to call the secretariat of an institution, one can hint or slowly let slip that something is wrong, directly to the adult you trust the most - and who was asking how you were doing only last week. We know from Cyberhus that such small changes in the social fabric around a young person and the service he or she uses can dramatically lower the threshold for asking for help, and thereby assure adult attention before a crisis might spiral out of hand.

3.2 Lessons from Cyberhus

From the advice given in our question and answers columns we know that personal contact is paramount, even when what is sought is seemingly only basic facts. When Home is Away will invite all relevant and free services for vulnerable youths to have a presence on the network; sometimes to give advice directly, but also to answer individual questions about their real-life services on the network. A brochure or poster might be informative, but is not in any way personal. Being on the same social network and inviting questions there directly is again lowers certain thresholds. At the

same time, adult supervisors can recommend and encourage use of a given service judged relevant to that particular youth. Also on the network, will of course be other young people in similar situations. We know from Cyberhus' existing forums that anonymous peer support can be extremely valuable, and we will extend this to When Home is Away. In certain closed forums and for those we believe it will benefit, we will open up for non-anonymous communication. One's supervisors will be given tools and training to easily moderate discussions, and can guide and help in forming the proper tone and usage; both on Cyberhus and When Home is Away, but also indirectly in the youths general web use. We know that almost all young people, at least in Denmark, use the web regularly, and from Cyberhus and our parent organisation Youth Welfare, we know that vulnerable and at-risk youths use it no less than others - but run into or create a disproportionately large amount of problems for themselves and others. We believe that to avoid abandoning these children and young people, social work that aims to help them must both guide their use of the net, and reach out to them over it.

4.0 Conclusion

We at Cyberhus believe that the increasingly social nature of the net is a new opportunity for meeting, helping, guiding and counselling young people, and not just a new chore or a series of unexpected crises to be averted in our work with them. Cyberhus has moved into this new online arena, and build a niche of peer forums, advice columns and one-on-one chat that are all sensitive to the rules and workings of the net, while being shaped towards the particular goal of helping vulnerable kids and youths. When Home is Away hopes to demonstrate the effectiveness of a more specialised use, with an entirely different form of niche; the social networking service. Important contributors to Cyberhus' success are our collaboration with a wide variety of partners, and the use of free and open source software we can modify to the specific needs social work necessarily will have. We hope that others will collaborate with us in creating a free alternative to closed and for-profit social networks, so we can ethically, professionally and effectively expand social work to these platforms that fill such a large part of the lives of today's children and young.

Social Software Tools fostering Social Inclusion: Measuring outcomes

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Abstract. This paper focuses on how you can measure the effects of your own project and interventions when you want to foster social inclusion. In order to do this, you can make use of the measurement instruments developed in the INCLUSO project. The INCLUSO project wanted to show how social software tools can facilitate social inclusion of youngsters at risk. In this paper we commence with a brief description of the different levels on which outcomes can be measured. We then focus on the different kind of goals that can be pursued when you want to improve social inclusion. Furthermore, we present items for measuring the progress of youngsters on the different possible outcomes and provide guidelines on how to use them.

Keywords: social software, outcomes, measurement

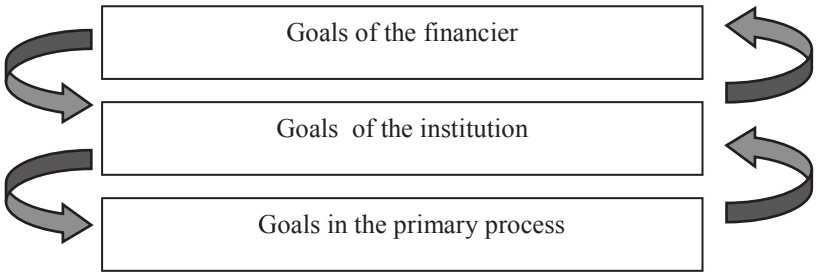
1 Introduction

In the INCLUSO project, four pilots experimented with the use of social software amongst youngsters. Since the aim is to learn whether the pilots can contribute to the social inclusion of youngsters, the pilots were monitored. We developed several instruments that measure the progress and impact of the introduction and use of social software within the four pilots. This paper focuses on how one can use the measurement instruments, developed in the INCLUSO project, to assess the effects of your own projects and interventions. In this paper we commence with a brief description of the different levels on which outcomes can be measured. We then focus on the different kinds of goals that can be pursued when you want to improve social inclusion. Furthermore, we present indicators for measuring the progress of youngsters on the different possible outcomes and provide guidelines on how to use them.

2 Measuring goals at different levels

Organizations use performance indicators to show to what extent goals / objectives are achieved. These goals can be divided into three different levels (Van Yperen 2005):

- Goals in the primary process. Here indicators can be used to assess the degree to which specific goals are achieved as formulated by the client and the counselor.
- Goals of the institution. At this level indicators show to what extent the institution is able to successfully target audiences with specific forms of intervention.
- Goals of the government / financier. Here indicators are used to represent the social role of the sector (government) or the goals of the financer.



Performance indicators are useful because they give an overall view of the quality of work, which can then be improved. In order to achieve this, two conditions are required: First, it needs to be clear which objectives at the various levels are of importance. Second, those goals should be reasonably converged. The latter is important because the goals of the financier should be in line with those goals in regards to the workplace and vice versa.

The three levels are recognizable in measuring the four INCLUSO pilots.

The goals in the primary process were measured by the project leaders of the pilots within the INCLUSO project. They collected a lot of relevant information, varying from "getting in touch with local politicians" to helping a youngster in his personal development. This varies not only between pilots, but also over time. For example "getting in touch with politicians" can be entertaining for the youngsters and may help to keep them motivated, but it is of course temporary and not an overall goal. This kind of information was collected in the evaluation action plans (EAP). These evaluation action plans can differ over time. For example, original indicators proved to be to much work to collect the information. The information is used as input for the White book and to design the measurement instrument for the youngsters.

The Goals of the institution as relevant for the INCLUSO project were measured by interviewing the INCLUSO staff and the staff involved with INCLUSO activities. Here it is important how the use of social software and the goals of INCLUSO connects with the way the organization works and keep records. These questions concern two aspects (Huijsman & Groenewoud, 2003):

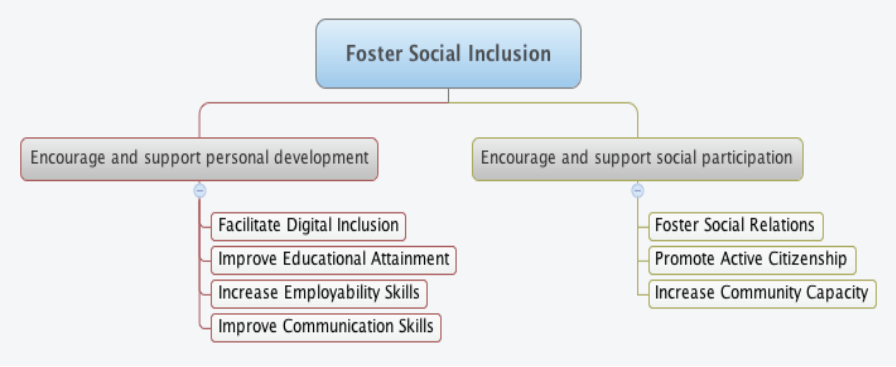
Structural Indicators. This concerns the conditions for working on the goals, such as the training of workers, the availability of computers and the support of management. *Process Indicators.* This concerns how the organization achieves its goals. For example, they can work with competence tests, weekly appointments ,etc.

The overall goals of the INCLUSO project are measured by the measurement instrument for the youngsters (WP 3). It measures the topics of the general goals making as much as possible use of known indicators in the literature. It is aimed at finding correlations between the intervention and the different goals that are pursued by the pilots. In order to formulate hypotheses for further research the correlations between the different goals are also important.

In this paper we focus on the last level. We made an internet based questionnaire for youngsters who participated in the pilots. It can be used by other projects focussing on the improvement of social inclusion by social software.

3 Foster Social Inclusion: Different possible goals to measure

In 2009 the INCLUSO project developed its main goals which are presented below. It is necessary to keep in mind that there is no pilot which focuses on all possible goals. It is better to focus on specific goals. So, if you want to use the measurement tool as presented below, you should make a selection of which parts you will and will not use.



In the next session we present the different indicators you can use to measure outcomes on the goals. These indicators are of use in a research design. Below are some important guidelines:

1. The questionnaire must be filled in by the users of your project at least twice. Once in the first week of your project and one in the last week. This way the results can be compared. Add questions to make it possible to identify the same youngsters in the dataset.

2. You must reach the groups of young people who are specifically targeted and fully supported throughout your project (experimental group). Preferably you should try to reach all of these youngsters if they are less than 80. If there are more you can suffice with 80. Select those youngsters random.
3. When possible, try to define a control group. Youngsters who engage in a similar project not specifically working with social software. Try to reach as many youngsters in the control group as are engaged in the experimental groups. It is important to separate the different target groups so ad a question in the survey that asks this.
4. The questionnaire can be send through mail and social software to all the youth that participate in the pilot project and also to the youth who engage independently. There could also be pop-ups on the portal (tools) with a button to the questionnaire. Plan the dates in which youngsters can fill in the questionnaire. Make it a two week maximum.
5. Make someone responsible for getting the questionnaires filled in. The questionnaire can be a web based questionnaire. So it would be the best if the young people could fill it in on the web. You could ask some of your co-workers to help by getting one of more young people to fill it in.
6. The most ideal would be if you could observe the youth while filling in the questionnaire. Let them fill it in on their own, only help if they really ask. Make sure that the young person is alone, feels ok, and is seriously filling in the questionnaire.
7. You need software and knowledge of surveys to interpret the results. So you probably need an expert. Because the work is standardized it should not be too expensive.

4 Indicators you can use to measure outcomes

In the table below we present the selected indicators for the different outcomes. Each outcome has more than one indicator and each indicator can consist of different questions in the questionnaire. This is common practice in social science because the concept which is measured remains abstract. To ensure reliability, the measure must be consistent and repeatable.[1]. This is especially important if you want to measure a number of times to detect change. There are statistical tools to help you decide if you are indeed measuring the same dimensions of a concept. See www.incluso.org for the complete questionnaire.

Table 1 Selected indicators for different outcomes

[1] There are several forms of reliability. Test-retest reliability: whether repeating the test/questionnaire under the same conditions produces the same results. Reliability within a scale: that all the questions designed to measure a particular trait are indeed measuring the same trait.

Concept	Indicator	Reference
Digital Inclusion	Computer at home	Oxford Internet Survey
	Using a computer almost every day	Dutch ICT education monitor
	Using internet almost every day	PEW research
	Location of using social software	Oxford Internet Survey*
Educational Attainment	Attending school	**
	Not playing truant	**
	Level of education	**
	Improving school participation en results because of partaking in the project	High School Survey of Student Engagement and experiences in the pilots*
Employability Skills	Contacts through computer helped to improve reading, writing of numeracy	UK online centres, IPSOS MORI
	Contacts through computer helped to learn new skills and qualifications	UK online centres, IPSOS MORI
	Contacts through computer helped to find a job	UK online centres, IPSOS MORI
	Searching for jobs online	**
	Having a job profile	**
	Frequency of updating job profile	**
Communication skills	Good online communication skills	**
	Good offline communication skills	Social Communication Questionnaire (SCQ)
	Using computer or internet is an alternative for offline contact	Research on msn in social work (Verwey-Jonker Instituut)
Social Relations	Good contact with people of own age	SDQ
	Social behaviour	SDQ
	High number of significant contacts	PEW
	Number of family members via internet	**
Active Citizenship	Participation in organisations	Research on youth participation policy (Verwey-Jonker Instituut)
	Following the news A (following)	**
	Following the news B (conversation)	**
Community Capacity	Getting more (bridging) contacts through social software	

*Specified for INCLUSO-project
**Indicator and questions based on own experience and discussion with INCLUSO pilot-partners.

Having a computer at home and using a computer and internet almost every day, are indicators of *digital inclusion*. The location where people use social software does not

really measure the level of digital inclusion, but gives some valuable additional information. It is, for example, useful to know if participants in the project only use social software in the setting of the project or in others settings – at home or at school - as well.

Educational attainment is measured by school attendance, level of education and truant behaviour. A fourth indicator we added is if the participants improve their school participation and results because of participating in the project, in our case the INCLUSO-project. To get results on this indicator we asked to what degree participants agree with five statements about school in relation to the project.

As internet is an important area where people can find a job, it is important not only to focus on regular *employability skills* such as reading, writing or numeracy. It is also necessary to know to what degree the participants in your social software project use internet, and in particular social software, in order to find a job.

All three indicators of *communication skills* are measured by several statements. In order to get to know the online communication skills of the participants we asked how often (never, sometimes, often of always) they do specific things on a computer, for example sending e-mails or having direct contact with friends or strangers. For offline communication skills we used four items from the social communication questionnaire. To what degree online communication is a good alternative for offline contact is not a real indicator of communication skills. Nevertheless it is important to get some information on this subject. It can be used in order to get to know if the participants feel more comfortable communicating about difficult subjects online than offline. Four statements are used to get a score on this indicator. Participants are asked to what degree they agree with these statements. This is also the case for the statements about offline communication skills.

The Strengths and Difficulties Questionnaire (SDQ) contains five items about the contact youngsters have with people of their own age and five items about their social behaviour. These two scales of statements are important indicators of *social relations* of youngsters. Participants are asked if these statements are true for them. Besides that, questions about significant contacts – people you discuss private and personal matters with – are added as well as the question how many of their family members participants meet on the internet. These questions are asked in order to get some additional information about the nature of the participant's contacts.

A first indicator of *active citizenship* is if people are interested in society and the news. That is the reason why we asked if they follow national as well as international news. In addition we asked them about their contribution on conversations about topics in the news. Another indicator of active citizenship is whether or not participants really participate in society. For that reason we asked if they take part in different social organizations, such as a youth panels or school newspapers.

Social software can be a way to get in contact with new people or people you already know. In order to measure *community capacity*, we ask participants to what degree they think statements about this subject are true for them. These statements generally are about the background of the people they meet on the internet. Some statements refer to bonding contacts with people of the same background, other to bridging contacts with people of other backgrounds.

5 Other possibilities

We made as much as possible use of existing measurement instruments. This is important for the reliability. We made use of the following important sources. These sources can help you to find measurement instruments for other concepts.

PEW Research Center
The Pew Research Center is a nonpartisan "fact tank" that provides information on the issues, attitudes and trends shaping America and the world. It does not take positions on policy issues. Its work is carried out by these seven projects. One of these project is the Pew Internet & American Life Project**.** The Pew Internet Project conducts original research that explores the impact of the internet on children, families, communities, the work place, schools, health care and civic/political life. It seeks to be an authoritative source for timely information on the internet's growth and societal impact. http://pewinternet.org/.

European Social Survey (ESS)
The European Social Survey (the ESS) is a biennial multi-country survey covering over 30 nations. The first round was fielded in 2002/2003, the fourth in 2008/2009. The European Social Survey (the ESS) is a biennial multi-country survey covering over 30 nations. The first round was fielded in 2002/2003, the fourth in 2008/2009. The project is funded jointly by the European Commission, the European Science Foundation and academic funding bodies in each participating country, and is designed and carried out to exceptionally high standards. http://ess.nsd.uib.no/ .

ICT-Onderwijsmonitor
Goal of the ICT-onderwijsmonitor is to get insight in ICT use in schools in the Netherlands. www.ICT-Onderwijsmonitor.nl.

SDQ
The Strengths and Difficulties Questionniare (SDQ) is a brief behavioural screening questionnaire about 3-16 year olds. It exists in several versions to meet the needs of researchers, clinicians and educationalists. We used the scales (5 items) for peer relational problems and prosocial behaviour. www.sdqinfo.com.

High School Survey of Student Engagement from Indiana University
This is a measurement instrument of Indiana University. The High School Survey of Student Engagement (HSSSE, pronounced "hessie") investigates deeply the attitudes, perceptions, and beliefs that students have about their work, the school learning environment, and their interaction with the school community. HSSSE has been measuring the engagement of secondary students since 2003 and offers teachers and administrators actionable information on school characteristics that shape the student experience. HSSSE was completed by nearly 300,000 students from high schools across 41 states since 2006. It's a short, reliable, paper-based survey that is easy for students to complete.

(UK online centres, IPSOS MORI, 2008)
Ipsos MORI, part of the Ipsos Group, is a leading UK research company with global reach. We specialise in researching Advertising (brand equity and communications); Loyalty (customer and employee relationship management); Marketing (consumer, retail & shopper and healthcare); MediaCT (media and technology) , Social & political research and Reputation Research. We used questions from the next report: Digital Inclusion Report for UK Online Centres. http://www.ipsos-mori.com/researchpublications/publications/publication.aspx?oItemId=1249.

Social Communication Questionnaire (SCQ)
Previously known as the *Autism Screening Questionnaire* (ASQ), this brief instrument helps evaluate communication skills and social functioning in children.
http://portal.wpspublish.com/portal/page?_pageid=53,70432&_dad=portal&_schema=PORTAL.

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LINK IN DE KABEL: Working with underserved youngsters and the digital divide

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Abstract. It is the mission of Link in de Kabel to bridge the digital divide amongst underserved youngsters (youngsters who need special care for different reasons: handicap, problems at school, poverty, ...) by giving them access to information technology and by providing them with IT-skills in order to create new opportunities for social, economic and digital inclusion. To gain this objective, we have several activities: a computer technology learning centre, an educational offer and technical support. Since 2009, we want to extend our organization in Flanders, by giving workshops to the companions and educators of the youngsters, to enable them to help and support their youngsters in a better way.

Keywords: Underserved youngsters, digital divide, e-education, digital inclusion

1 Introduction

1.1 History

The basics of Link in de Kabel can be find in MPC Terbank, an institution for mentally disabled youngsters. The educators of one family group of mild mentally disabled youngsters bought several computers with an internet connection in 1998. After the installation of the computers, most of the educators didn't seem to have enough knowledge to support the youngsters. With the help of a few volunteers (mostly students at the KULeuven), they started up a project to coach the youngsters. The project was called 'web-site-story'.

In the meantime, another group, more specifically a group of moderate mentally disabled youngsters, also got computers with an internet connection. The first project was repeated and adapted to the level of these youngsters. This project got the name very-soft-ware.

Both projects had a huge success. Eric Beke, pedagogue at MPC Terbank, contacted other youth organizations in Leuven to investigate on the one hand if their

youngsters had the same desire to learn to work with the computer and on the other hand if their companions and educators also lacked the necessary ICT-knowledge. There were approximately 10 organizations who all had similar questions. These weren't all institutions for mentally disabled youngsters, but also community centres, institutions for special childcare, educational centres for youngsters, …). The cooperation between these 10 organizations led to the birth of Link in de Kabel in 1999.

Link in de Kabel perceived two issues to work out: firstly, the educators had too little time and knowledge to support the youngsters in their computer use, and secondly the technical problems with the computers couldn't be solved because of budgetary issues. [1]

In 2001 Link in de Kabel became an unincorporated association, in 2005 it developed into an organization with his own computer centre.

2 Method

The computer technology learning centre (CTLC) is located in the Riddersstraat 147 in Leuven, about 30 km from Brussels. The Riddersstraat is in the middle of an underprivileged neighbourhood. Link in de Kabel hires the first floor in Community Centre 't Lampeke, a meeting place for underprivileged adults.

The CTLC is open on Tuesday from 16h till 19h and on Wednesday from 14h until 19h for underserved youngsters from 12 years and older. If they are younger, the educational worker of Link in de Kabel needs permission from their parents or social workers. In the centre, the youngsters can do their homework, chat with friends, go on the internet, discover new software and experiment with it. The capacity of the centre is 11 computers, expandable to 15 computers during busy moments. There are also 5 computers on the main floor that can be used by adults or youngsters when Link in de Kabel is closed.

Organizing a CTLC for underserved youngsters is something social workers should think through before starting. For instance: what are the rules in the centre? Which behaviour can be tolerated and which cannot? We have several guidelines. The 3 most important are:

Primarily: a limitation of 1,5 h per day on the computer (children are children and should play outside instead of being at the computer a whole evening or afternoon)

Secondly: there is always an educational worker in the centre, who gives support (educational support, but also technical).

Thirdly: working with actions gives the most chance on success.

In the centre, Link in de Kabel offers an educational packet, consisting of two parts, namely short pc-sessions and modules. In the two parts, there are four very important rules: adjust the duration of the lesson to the level of the youngsters (mostly a session takes 1 to 1,5 hour), the lesson has to lead to a concrete result, it has to have a unschoolish approach and should be customized to the level and the interests of the youngsters.

There are 30 short pc-sessions, parted in 10 subjects: music, movie, photo, www, design, school, my pc, safety, interactive subjects, theory. Link in de Kabel adjusts each pc-session to the level of the youngsters: the difference can be found in the way of coaching. Sometimes there's a need for permanent coaching, sometimes start-up coaching is enough… Also the didactical method can define the difficulty: making a very visual powerpoint presentation with step by step explication, giving just an oral explication, making a quiz or a contest between the youngsters so that they can explore the program by themselves…
For the modules, the same methodology can be used. The modules handle roughly the same subjects as the shorter sessions, but a module takes 3 or 4 weeks to complete. This gives youngsters the possibility to learn about one program or subject in a more profound way. The big problem here is that youngsters are not always willing to engage themselves for several weeks, while their presence is really necessary to achieve the learning goals.

The third activity of Link in de Kabel is technical support. Link in de Kabel has a computer park of 150 pc's in 40 different locations in and around Leuven. The technical support of these computers is in the hands of ICT-volunteers. They are people who had ICT-education and/or a job in ICT. They solve the problems in a team, to enable them to consult each other about difficult problems. One person is responsible each week to follow up our helpdesk. The communication about a problem goes through an online ticketing system. The helpdesk gives us an overview of the history of each organization and each computer. The overviews offer help with difficult questions, because it catalogues the hard- and software properties of the pc and its history of problems. In the period of 2002 to 2009 approximately 340 problems were solved, 43 problems per year.

3 Results

3.1 A few figures

The CTLC is the beating heart of Link in de Kabel. It is the place where we practice our methods, keep in contact with the youngsters and keep everyone posted about new technologies and Web 2.0 tools such as social software.

Table 1 shows an overview of the number of days that the OCLC was open and of the number of individual youngsters that paid us a visit in the past 4 years. Both numbers are visibly increasing. Link in de Kabel tries to be open as often as possible, taking the location and the available staff into consideration. If we believe the youngsters, they would come more often if we were more open. Daily, an average of 17 youngsters finds their way to the centre.

The second figure shows that we reach more and more youngsters each year. In the past 4 years, the number of youngsters who come to the centre has even doubled. Link in de Kabel organizes special actions to promote its CTLC and activities. Even though the underserved youngsters are difficult to reach, we succeed in finding ways to make promotion. The most successful way is to use the peer group of the youngsters who already come to the centre. In 2009, for instance, we launched a 'Link to Link'-action. We challenged the youngsters to bring 25 new friends or family members to the organization in a period of 6 months. Each new friend had to come minimum 5 times during this period. If they succeeded in the challenge, Link in de Kabel was to buy a Wii-console for in the centre. The challenge was huge, but the youngsters were motivated and succeeded. Since September 2009, a Wii-moment takes place in the centre every Wednesday afternoon.

Next to this, we reach 800 youngsters who live in institutions with our computer park. Without the technical support from Link in de Kabel, these youngsters wouldn't be able to get access to computer and internet. Unfortunately, not all these youngsters have the possibility to come to the centre to take full advantage of the educational offer.

Table 1. Figures of the CTLC.

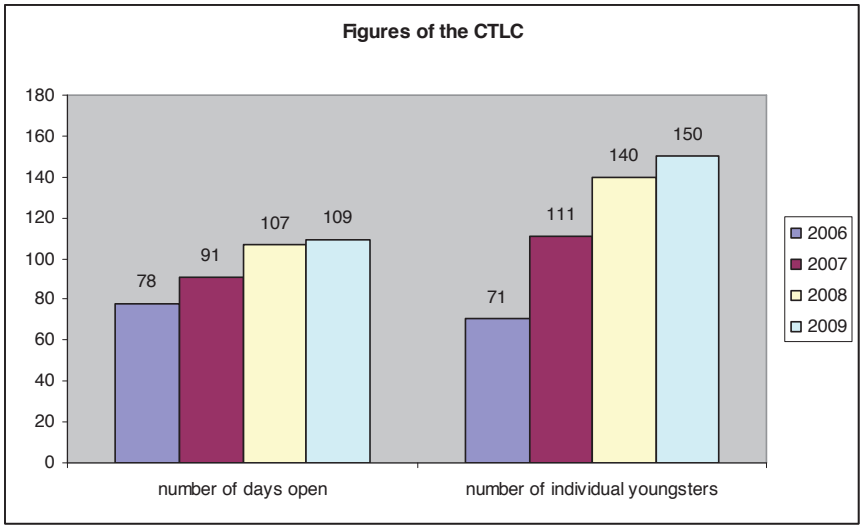


Table 2 gives an overview of the educational work that has been done. The number of visits has also increased a lot. The last year it decreased a little, which can be explained by the length of the visits. In 2009 we renovated our centre to have more computers available. Since then, each youngster can work longer at the computer per visit. So even though the number of visits is decreasing, the number of trained hours has been increasing a lot since 2007 (there are no figures available from 2006). More youngsters come to the centre with clear questions and problems with

f.i. social media. Our educational worker then organizes a lesson to get all the youngsters back to speed and to increase their knowledge.

Table 2. Figures of educational work.

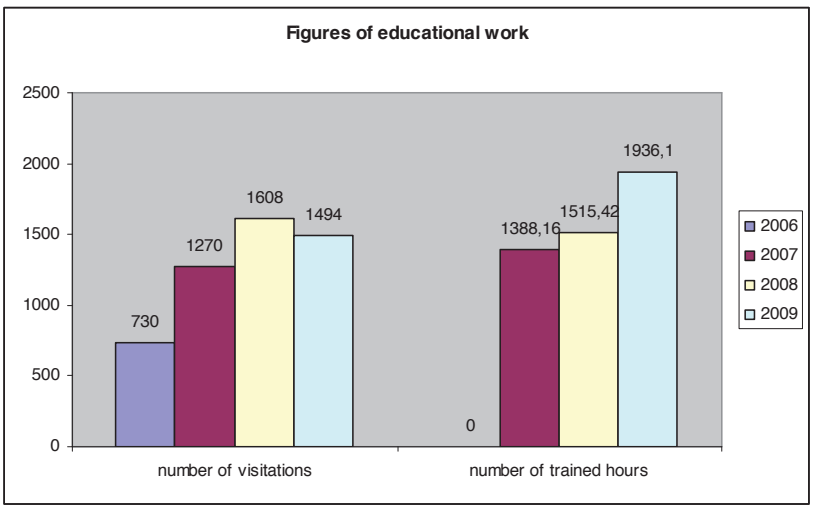
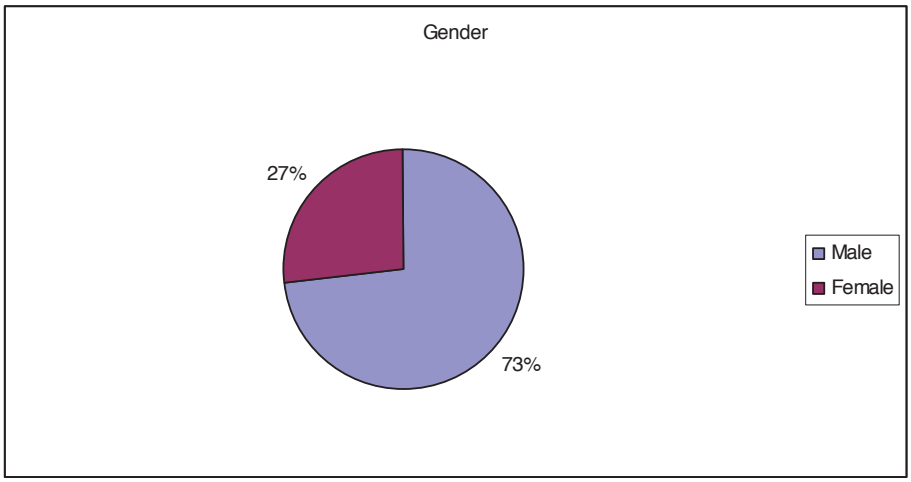
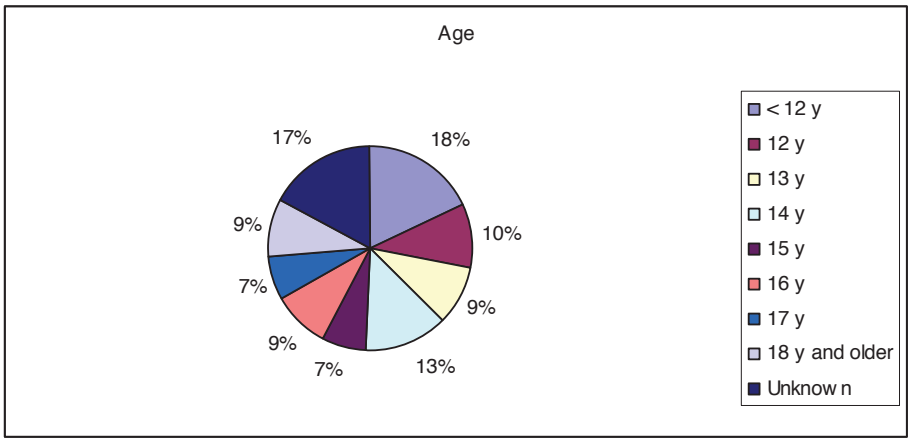


Table 3 zooms in on the youngsters themselves (figures from 2009). The division in gender is remarkable: almost 75% is male. We suspect that this has something to do with the background of our youngsters. Most of them come from a family with a different ethnic background, where the girls have to take care of their little brothers and sisters, go to the market and even cook dinner for the whole family. After school, when the centre is open, they just don't have the time to pay us a visit. A second reason can be found in the (over)-protection towards girls. Boys can walk alone in the neighbourhood (even when it is dark), the same thing is forbidden for many of the girls that come to Link in de Kabel.

The division of age shows us that half of the youngsters is 14 years or younger. This is also the age that youngsters open to following computer training. They really want to learn about the internet and different tools on computer. When they are older, youngsters often think that they already work decently with the computer, making them less open to following trainings. This belief in their competences is not always justified. A second reason is that youngsters always find a way to get access to computer and internet, f.i. at home with school friends. The older they get, the less they really need the CTLC from Link in de Kabel. They find their own way, but also let slip the support of our educational worker in the centre.

Table 3. Figures of the youngsters: gender and age.





3.2 Translation to the digital divide

Working for several years with this target group, gave us a lot of knowledge about youngsters and their attitude towards computer and internet.

First of all, we have a specific vision to introducing our youngsters to ICT. Derived from this vision, Link in de Kabel made general guidelines for organized youngsters, but also for non-organized youngsters. Organized youngsters come to the centre in group, as a part of the recreation offer of the institution they live in. A couple of days before the pc-session takes place, there is a consultation between

the social worker from the institution and the educational worker of Link in de Kabel. During that consultation, homogenous groups are made with the same level of intelligence, interests,… That makes the pc-sessions more effective. It's important in this case to offer a lot of structure, depending on the problems of the youngsters.
It is different with non-organized youngsters. With them, the educational worker works on an individual base and on demand, always attending the activities of the youngsters: what are they doing on the computer, can I help them, can I give more information about what they are doing, but also: can I learn something from them? Youngsters often acquaint themselves faster and better with the new web 2.0 applications than us, adults. We shouldn't be ashamed of that, but learn from them and give them the opportunity to be the teacher for once… It really gives a boost to their self-esteem and increases the trust between educational worker and youngster.

There is a difference between girls and boys in their use of the computer. Boys like gaming, watching sports on YouTube and searching information about cars. Girls, on the other hand, like networking on Netlog, MSN, doing their homework and listening to music and watching dance videos on YouTube.

Considering the access to computer and internet of the youngsters in the centre, there are a few problematics that often return: there is not always a computer with internet available at home. If there is one, it sometimes has old programs and no printer. And when the computer is broken, it's not getting fixed because of money issues. Some of the youngsters come from big families, so the computer has to be shared between brothers and sisters.

As for the use of the computer and internet, our youngsters think in the short term and they hardly see the benefit of ICT. There is mostly a big resistance against learning. Youngsters stick to the knowledge they already have, maybe also because of the little persistence they can bring up. They also have less creativity in using programs (making the link between different programs is not easy and not done by our youngsters).

Nevertheless, we all get in contact with ICT and new media in our daily life, as are the underserved, the disabled or the poor… We should not underestimate the power of the media. Youngsters are getting influenced by them and want everything that they see on tv or hear from their friends, without any critical reflections (How much does this cost? Do I really need it? Do I have the money?...).

From all this, Link in de Kabel distilled several general guidelines. As mentioned, we aim at an unschoolish and customized approach. It's also important to aim for a concrete and quick result (for instance a CD with self-mixed songs). Youngsters want a big result at little effort. What is really important when you want to see results, is faith between the youngsters and the educational worker. Without this connection it is much harder to create progress in ICT-skills. This means that not everybody has the skills to coach the youngsters in the computer technology learning centre.

It helps to give the youngsters a proverbial carrot, by giving them a fun perspective

without focusing too much on the learning aims, f.i. by letting them play online games for the last quarter of the pc-session. And at last, Link in de Kabel tries to increase the autonomy of the youngsters, by making them see the wide context of a computer, the ICT-logics and by learning them to be creative in using different computer programs. F.i. the B of bold is used in word, but also in powerpoint, excel, even in some open source programs… Or knowing how explorer works, can help them to find documents and save them in an efficient way…

Launching actions is an effective way to get in touch with the youngsters to encourage them to learn something. One of our most effective actions is creating a proper CD, which starts with mixing songs, attention and explanation about legal and illegal downloading, burning the songs on CD and ends with making the labels for it. The youngsters are making something for themselves, so they are motivated to bring it to a good end. During these actions, but on a continuing base as well, we also work at their self-image, attitudes and behaviour.

4 Conclusions and future plans

There is definitely a need for the services of Link in de Kabel in Flanders. We are certain that our methodology and mission can help other cities to support their underserved youngsters and solve their digital problems. In order to share our knowledge, we are collecting our expertise, literature, studies,… in an expertise centre 'Digital Divide and underserved youngsters'. With this centre, we want to share our knowledge about these items. Organizations can contact us to provide a workshop or an information session on the demand of their staff, depending on their need for education. The aim of these workshops is not only to expand Link in de Kabel in the whole of Flanders, but also to increase the ICT-knowledge of the staff to enable them to help and support the youngsters in a better way. The subjects of the workshops are very diverse: from basic courses to project lessons about digital photography, films, YouTube, but also about how to handle new media in an institution.

But the most important is that we keep holding up the good work in Leuven and keep giving an offer to the 800 youngsters. 'Not expecting too much, every progress, however small, counts' is our slogan. Maybe yours too?

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Reflections on the new peer news paradigm as exploited by youngsters: The influence of sex, educational level and type on news participation, seeding behavior and attitudes within web 2.0 environments

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Abstract. The presentation discusses the *media use* of 16-to-25 year olds, and particularly their appetite for *news* and their attitudes and motivations towards *User Generated Content*. To what degree do they participate in news production and in which circumstances are they likely to seed and co-create news items? The presentation focuses on the role of educational level achieved in secondary school and current training at college: Informatics and Journalism. Furthermore, the presentation focuses on the *seeding* aspects of fun and news items. Social media users tend to share content with peers more often and with more people than ever before. To what degree do youngsters *trust* these sources? It seems that the level of trust required is different from one source to another.

Keywords: News – User Generated Content – Seeding Behavior – Education.

1. Main research aim and Target Group

Target Group. In this research[1] we investigate young people between 16 and 25 years old. We choose to include this age group because we can assume that adolescents only show interest in 'news for adults' from the age between 15 and 18 years [1]. This assumption has actually been confirmed by almost all participants in focus group discussions conducted by us at the Media Expertise Centre and referred to in this paper. We have gathered data based on both qualitative (focus group discussions [2] and interviews) and quantitative (questionnaire) research.

Our participants belong to the Generation Y. This Generation Y is said to be the generation born between 1982 and the late nineties – latest 2001 [3][4]. Generation Y has also be referred to as the 'Digital Natives', who have been in contact with technology like computer games, e-mail and the internet from birth on, unlike the

[1] The research referred to in this article has been supported as ZZPWO-project 17 'Crossmedia youth communities: think global, act local'. The scientific responsibility is assumed by the authors, who work at the Media Expertise Centre (MEC) at Mechelen University College (KHM). E-mail: Vicky.Franssen@khm.be or Annet.Daems@khm.be. The authors are indebted to Frank Hellemans for recruiting participants studying Journalism at the Mechelen University College.

'Digital Immigrants' who were not raised with ICT but get familiarized with it later in life [3][4].

We prefer the term Generation Y to define the generation born between 1982 and 1995-2001, because this term is a bit more exclusive. Young people born after 1995-2001, the so-called Generation Z, are of course also 'Digital Natives' and frequent users of the internet. Moreover, according to some, the internet generation may not exist at all, or at least, their IT skills should not be generalized nor exaggerated. Youngsters show great differences in IT skills and occupation compared with one another, and show a lot of intra-group differences [5][6]. This has also been concluded by a larger European research (TIRO): "*There is no such thing as the internet generation. Not all young people are skilled 'cyberkids'. Dependent on age, gender, social background and schooling, teenagers differ in the way they make use of information and communication technologies (ICT)"* [7].

Research aim. In this paper, we focus on this Y-generation and their (past) educational level and current training which may affect (i) the consultation of several off- and online media for general and news purposes, (ii) attitudes toward laymen-participation in fun and news content, also called User Generated Content (UGC), (iii) actual degree of participation and distribution, or seeding behavior, in fun and news items and (iv) the role of trust in these consultation and co-creation processes.

Participants. The present data are based on a questionnaire conducted between April and May 2009. This questionnaire was sent and completed digitally. After cleanup of blank and double records, 276 participants remained, of which 55,4% were men and 44,6% were women. The mean age was 19,14 year (M♂=19,65 year and M♀=18,51 year).

Independent Variables. The three independent variables of interest in this study were (1) (past or current) level of education at secondary school (referred to as Secondary Educational Level, *SEL*); (2) current training type in higher education (referred to as *Major*) and (3) *sex*.

SEL consists of 3 levels: students who have received or still receive a General Education (GE: 51,8%), a Technical Education (TE: 33,7%), or a Vocational, Art or Part-time Education (referred to as VE+: 13%).

Major consisted of four levels. We selected two distinctive groups who might be more willing to seed or participate in UGC because of one or two exclusive features: Students being interested in news and skilled in journalism who followed a training Journalism at Mechelen University College, referred to as JOU (N=63, 23%), and students being interested and skilled in IT and internet applications, for who extra downloads, registrations, use of several applications and programs should offer no problem (following a training Informatics and Multimedia (*"Informaticamanagement and Multimedia*" at Mechelen University College), referred to as INF (N=64, 23%). Note that these features are exactly those attributed to the 'Digital Natives' [3][4]. We also included two control groups: Youngsters aged between 15 and 18 years (i.e., Young Controls, YC, N = 93, 34%), and older Y-gens who study or had studied another than the two aforementioned majors at a University or a University college (i.e., Old Controls, OC, N=56, 20%).

Participants within the *SEL* conditions did not differ significantly in age or sex. There are however some substantial demographical differences per *Major* type. The INF group mainly consists of slightly older (M=20,58 year) men (83% ♂) who had a TE secondary educational level (50%). The YC group consists of younger pupils (M=16,72 year), is slightly more feminine (42% ♂) with somewhat more VE secondary education. The JOU group consists of more students with an GE past education (65%), and the mean age was somewhat lower and there were more female students (M=19,16 year, 44% ♂). The OC group is older (M=21,52 year), masculine (59% ♂) and predominantly followed GE in secondary school (GE 59%).

2. Consultation pattern of off- and online Media in General and for News Purposes

Time spent[2] on Diverse *Media* for General and for News Purposes For *general purposes*, generation Y spent most time on the internet with a large margin from the second most popular medium, television. Mobile cell phone is the third most popular medium (all values in Table 1, left panel). *SEL* had no substantial effect on time spent per medium. Although there was a trend towards participants with a general SEL (GE) to read more often newspapers and magazines than participants with a technical SEL (TE) and a vocational or art SEL (VE+), this difference did not reach the conventional significance levels. The only medium being significantly affected by SEL is internet: TE students use more often the internet than GE students and VE+ students. As such, in our sample, the classic findings and statement that poorly educated or under-skilled people remain the largest fraction of non-users at the internet [7][3] [8] [9], are not completely confirmed, although the even lower educated VE+ group spent less time on the internet[4]. *Major* training had a greater effect on time spent on 6 out of 8 questioned media. JOU students spent significantly more time on newspapers (for free and to pay), magazines and television, whereas students INF spent most time on the internet. If significance is reached, YC are at the low point of media use, except for watching television and use of mobile cell phone. Students INF also score low on all media, except internet-use and reading free newspapers. Furthermore, *women* listen significantly more to the radio [p=.000] and read more magazines [p=.06], whereas *men* spent more time at the internet [p=.002] and more frequently consulted teletext [p=.095]. The European TIRO research on cyberteens, cyberrisks, cybertools [7] also shows that compared to girls, male teens claim to be more advanced regarding computer- and internet skills.

A slightly different pattern is emerging when it concerns *news purposes* (Table 1, right panel). Youngsters consult most often television, followed by internet and radio for obtaining news and current affairs. *Major* plays a significant role in almost all media

[2] Response classes: 1=never; 2= a few times a year; 3= a few times a month; 4= a few times a week; 5= 1-30 minutes a day; 6= 30-60 minutes a day; 7= 1-2 hours a day; 8= > 2 hours a day.
[3] [7] found that there are no significant differences between the 3 secondary school levels in Flanders: GE, TE and VE. There is however a small advantage for GE scholars regarding basic knowledge on computer and internet.
[4] In another study by us, with participants between 30 and 50 years old the finding that GE adults use the internet more than TE and VE adults was strongly confirmed [10].

consulted for news, and these effects are more substantial than those of SEL. Students JOU consult more news by means of *any* medium, including the internet. Students INF, alternated by the YC, do not frequently use half of the media questioned, which is however not true for consulting the internet for news by students INF. Some effects were obtained for *SEL:* students who followed general education more frequently consulted news. In particular; GE students spent equal time on news on the internet and more on paying newspaper than students TE and, in turn, students VE+. The differences did not attain significance for the other media. Finally, *women* consume more news by means of the radio [p=.08] and *men* spent significantly more time gathering news at the internet [p=.000] and teletext [p=.06].

Table 1: Time spent on several media in general and for news consultation (mean, main effect of current higher education, *Major*, main effect of level of education at secondary school, *SEL*).

	General			News		
	Mean	Major	SEL	Mean	Major	SEL
Internet	**7,10**	F=9,04*** INF>JOU>O>Y	F=4,18* TE>GE>VE+	**4,74**	F=13,16*** JOU>INF>O>Y	F=5,93** GE=TE>VE+
Tv	**6,23**	F<2	F<1	**4,77**	F=9,51*** JOU>O>INF>Y	F<2
Mobile phone	**5,91**	F=2,89* JOU>Y>O>INF	F<1	<2	-	-
Radio	5,04	F=2,94* O>JOU>Y>INF	F<1	**3,85**	F=6,76*** JOU>O>Y>INF	F<1
Magazine	3,64	F=9,18*** JOU>O>INF>Y	F<1	2,87	F=11,66*** JOU>Y>O>INF	F<1
Newspaper free	3,43	F=23,00*** JOU>INF>O>Y	F<2	3,77	F=18,58*** JOU>O>INF>Y	F<1
Newspaper pay	3,34	F=13,57*** JOU>O>INF=Y	F=2	3,34	F=14,14*** JOU>O>Y=INF	F=3,46* GE>TE>VE+
Teletekst	2,64	F<2	F<1	2,14	F)=2,25[b] JOU>Y>O>INF	F<1

Note: Although these dependent variables were of an ordinal scale, analyses are conducted as if they were of an interval scale. They indicate average response class rather than a real mean value. If a value was <2 (~ 'a few times a year'), possible main effects are not reported, because negligible. [b] Marginally significant at p<.10 level; * p<.05.; ** p<.01.; *** p<.001.

Time spent on Diverse *Internet Applications* for General and for News Purposes. *In general*, youngsters most frequent use MSN and Google (both between 1-30 minutes and 30-60 minutes a day), followed by mail, websites, Facebook and YouTube (from a few times a week till 30 minutes a day). All other applications (like schoolboard (Toledo), news sites and even games) are visited less than on average 'a few times a week' (see, Table 2, left panel). Effects of *SEL*: GE students use significantly less Netlog (corroborating [12]), games and MSN, while they spend significantly more time on mail, Facebook and schoolboard. TE students use significantly more MSN, Google, websites, news sites, blogs/fora, Netlog and games (which corroborates the findings reported in Table 1). Concerning the current *Major*, the data are a bit more ambiguous. Students JOU spend significantly more time on mail, Facebook, YouTube, news sites, Wikipedia and youth sites, students INF more on MSN, websites, schoolboard, games and blogs/fora, YC on Netlog, and OC on Google. The YC score lowest on almost all

internet applications, except on MSN, YouTube, games and Netlog. This finding that younger adolescents use the internet for only entertainment and communication purposes is conform with the focus group discussions [2] and the findings done in the TIRO-research [7]. Furthermore, for general purposes, *men* spent significantly more time than women at the following applications: YouTube, blogs/fora, RSS, websites, games and Wikipedia. The observation that compared to girls boys predominantly use and download applications, games and videos corroborates previous studies [7] [11] [12]. Girls, however, are using the internet more for communicating and for school assignments [11].

A totally different pattern occurs when one looks at the time spent on internet applications for news purposes. The most popular applications are news sites (although the average answer would be between 'a few times a month' and 'a few times a week'), Google, mail en websites (see, Table 2, right panel). Within these rather unpopular applications – at least for news gathering - there are fewer and smaller effects of *SEL* than of *Major*. The effect of *Major* is quite clear: if significant, students JOU spent more time on *any* application for news purposes –except blog/fora and schoolboard, which also corroborate the data mentioned in Table 1. In terms of *SEL*, if significance is obtained, youngsters having received the general education at the secondary level (GE) spent more time on the specific application for news purposes, followed by TE students who in turn use these applications more than VE+ students. Finally, *boys* use in their search for news and current affairs significantly more YouTube, blogs/fora and RSS than girls, and also marginal significantly more news sites than girls.

Table 2: Time spent on several internet applications in general and for news consultation.

	General			News		
	Mean	Major	SEL	Mean	Major	SEL
MSN	**5,47**	F=2,34[b] INF>Y>O>JOU	F=2,85[b] TE>VE+>GE	<2	-	-
Google	5,26	F=5,34** O>INF>JOU>Y	F=8,48*** TE>GE>VE+	3,26	F=7,48*** JOU>INF>O>Y	F<1
Mail	4,97	F=8,57*** JOU>O>INF>Y	F=7,41** GE>TE>VE+	3,04	F=5,08** JOU>INF>O>Y	F=4,11* GE>TE>VE+
Websites	4,67	F=6,02** INF>JOU>O>Y	F=3,81* TE>GE>VE+	2,86	F=7,27*** JOU>O>INF>Y	F=4,23* GE>TE>VE+
Facebook	4,59	F=18,79*** JOU>INF>O>Y	F=3,32* GE>TE>VE+	2,12	F=14,79*** JOU>INF>O>Y	F<2
YouTube	4,34	F=2,90* JOU>INF>Y>O	F<2	2,12	F=6,65*** JOU>INF>Y>O	F<1
News sites	3,95	F=18,05*** JOU>INF>O>Y	F=6,36** TE>GE>VE+	**3,60**	F=15,94*** JOU>INF>O>Y	F=6,38** GE=TE>VE+
Schoolboard	3,54	F=39,78*** INF>JOU>O>Y	F=6,48** GE>TE>VE+	2,23	F=9,02*** INF>JOU>O>Y	F=2
Games	3,48	F=7,41*** INF>Y>O>JOU	F=2,81[b] VE+=TE>GE	-	-	-
Wikipedia	3,36	F=4,67** JOU>INF>O>Y	F<2	2,25	F=6,89*** JOU>INF>O=Y	F=2
BlogForum	3,36	F=16,93*** INF>JOU>O=Y	F=3,17* TE>GE>VE+	2,37	F=10,99*** INF>JOU>O>Y	F<1
Netlog	2,73	F=22,45***	F=7,43**	<2	-	-

Youth sites	2,09	Y>INF>O>JOU F=6,49*** JOU>INF>O>Y	TE>VE+>GE F<1	<2	-	-
MySpace	<2	-	-	<2	-	-
RSS	<2	-	-	<2	-	-
LinkedIn	<2	-	-	<2	-	-

Note: although these dependent variables were of an ordinal scale, analyses are conducted as if they were of an interval scale. They indicate average response class rather than a real mean value. If a value was <2 (~a few times a year), possible main effects are not reported, because negligible. [b] marginally significant at p<.10 level; * at p<.05; ** at p<.01; *** at p<.001.

Conclusion. In general, internet seems to be *the* medium for the Y generation, and it is consulted more frequently than television and mobile cell phone. Despite the frequency and intensity with which generation Y consumes the internet, they believe that they do not spend more time in computer communication in general than their parents, but they agree that they spend more time in using MSN and Web 2.0. applications than their parents. However, this doesn't mean that they think of themselves as the 'new digital generation'. Even the 16- to 18-year olds YC group liked to believe that they are *not* the (inter)net generation, but instead refer to the digital generation as being even younger than themselves. For gathering news, television and internet seem to be consulted equally often. These data mirror the findings obtained in focus group discussions conducted at our Media Expertise Centre [2].

For general purposes, several internet applications reach values above 4 (~'a few times a week'), with on top MSN. The popularity of MSN was also reported by others [13] [7] [12], showing for instance that up to 64% of the Y generation in the US uses Instant Messaging. MSN and Facebook can be considered as serving a mere communicative and social function. Indeed, the focus group discussions [2] disclosed that internet was mainly used for fun-communication, leisure and entertainment. Then, 'older' internet applications like Google, mail and websites are second most often used, followed by YouTube and Facebook. In fact, Facebook –again, according to the focus group discussants – provides a mere communication and entertaining function. For news and serious matters, news sites are the most popular, followed by Google, mail and websites. But every application dives below the threshold of 3,60 ('between a few times a month' and 'a few times a week').

In fact, respondents mentioned that there's a discordance between fun and serious business in intensity and frequency of which they consume media and the internet, as well as in kind of medium or application they use for these different purposes. Indeed, typical media for communication within the private sphere are *their* mobile cell phones, *their* MSN, *their* Netlog and Youtube, (not-quite) *their* facebook (anymore), and "*there's is no place for news on those ones*" [2]. For news –and maybe translatable for all serious business - they use (or trust ?) more the serious and 'adult' applications (see also below).

3. Degree of User Participation for 'Fun' versus for 'Serious' Purposes

The data show some major indications concerning the degree of participation in UGC or the seeding behavior of youngsters. (i) Seeding is mostly not participating at all but …. watching (Table 3, last column)! (ii) Concerning the exact type or information carrier, seeding is all about photos, followed by text or messages, then videos and last news items (Table 3, last row). (iii) Seeding is also about emotional proximity (intimacy): friends and acquaintances (including themselves) versus strangers. They watch mostly stuff from friends, followed by posting stuff for themselves, followed by commenting on stuff of friends (Table 3). (iv) There is no participation or seeding when it concerns news.

Table 3: Participation in UGC (or seeding behavior) of youngsters of divers content types (information carriers) and of divers quality values (mean values on 5-point Likertscales: 1= certainly not … 5=certainly).

Type → / Degree ↓	Videos	Photos	Text / messages	News items	*Average*
Comment on … from journalist	-	-	-	1,72	*1,72*
Comment on … from stranger	1,92	1,93	2,06	1,74	*1,91*
Comment on … from friend	2,53	3,43	3,15	2,10	*2,55*
Watch … of stranger	3,06	3,00	2,59	2,53	*2,79*
Watch … of friend	3,41	4,16	3,52	2,81	*3,47*
Post … themselves	2,01	3,62	3,13	1,81	*2,64*
Average	*2,58*	*3,23*	*2,89*	*2,12*	

In order to have a more comprehensive picture of main effects of sex, SEL and Major, we reduced the data on seeding behavior by means of a Principal Component Analysis with OBLIMIN rotation. This analysis resulted in a reduction to 5 components (Table 4) which explain 72% of the total variance. Factor 1: text and photos watched, posted or commented originating from within the *personal relationships*, friends and acquaintances (rotation sums of squared loadings: 5,77). Factor 2: seeding of *news* (rotation sums of squared loadings: 5,28). Factor 5: seeding of materials related to *strangers* (rotation sums of squared loadings: 4,68). Factor 3: seeding of *videos* (rotation sums of squared loadings: 3,23). And finally Factor 4, which includes only one item 'watching news items of friends' (rotation sums of squared loadings: 1,64).

Analyses of sex, SEL and Major were subsequently conducted on the new calculated component scores. *Women* seed significantly more when it comes to news (Factor2) [p=.006] and *men* are more willing to seed (co-create, comment, watch) materials originating from strangers (Factor5) [p=.02]. *SEL* only plays a role on Factor5: seeding on strangers' materials, which TE students tend to watch and comment more than GE and VE+ students [p=.05]. *Major,* on the contrary, plays a significant role on *every* factor and seeding behavior. Students JOU have higher scores on Factor1 - watching and commenting photos and messages of friends and posting them themselves [p=.000] (JOU>INF>YC>OC), on Factor2 - seeding news (JOU>YC>OC>INF) [p=.000] and on Factor4 - watching news items of friends (JOU>OC>INF>YC) [p=.07]. Students INF

had the highest scores on Factor 3 - all about videos (INF>OC>JOU>YC) [p=.04] and factor 5 - materials originating from strangers (INF>JOU>YC>OC) [p=.07].

Table 4: Component loadings of seeding behaviors

Pattern Matrix[a]					
	Component				
	1	2	3	4	5
Text watch friend	,853	-,032	-,155	,021	,062
Text comment friend	,826	-,272	-,049	-,151	-,077
Text post themselves	,775	-,228	-,126	-,188	,005
Photo comment friend	,715	,061	,390	,032	,021
Photo watch friend	,661	,261	,141	,257	,240
Photo post themselves	,627	,159	,366	,180	,099
News comment stranger	-,017	-,839	,086	-,099	,093
News post themselves	-,019	-,832	,175	,038	-,046
News comment friend	,187	-,826	,146	,106	-,103
News comment journalist	,025	-,801	,026	-,080	,023
Video post themselves	-,045	-,128	,745	-,052	,042
Video comment friend	,194	-,240	,710	,010	,004
Video comment stranger	-,085	-,287	,574	-,334	,230
Video watch friend	,205	,020	,462	,280	,280
News watch friend	,204	-,549	-,047	,578	,115
Photo comment stranger	,100	-,104	,324	-,548	,357
News watch stranger	-,010	-,488	-,191	,511	,491
Text comment stranger	,238	-,425	-,160	-,510	,289
Photo watch stranger	,052	,153	,143	-,095	,773
Video watch stranger	-,053	-,020	,151	,089	,740
Text watch stranger	,255	-,133	-,312	-,138	,652

Note: Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization. a. Rotation converged in 13 iterations.

On top of the minor participation in terms of seeding for news, youngsters do not like *that* much reading comments (2,80/5) nor do they really want the possibility to comment (2,85/5) on news. No significant differences were obtained for sex. Students with a GE like both reading comments [p=.09] and having the possibility to comment [p=.04] more than students with a TE, and they in turn more than those with a VE+. We also obtained a substantial effect of *Major* on both statements [both p=000]: students JOU are more pro, followed by students INF, OC and YC. Youngsters however 'totally not' till 'rather not' have posted a news item on a news site or youth site, not for serious reasons, and even not for fun (all values <1,70/5). Given this very low score, we do not analyze further the effects of sex, SEL, and Major.

Seeding is also about *sharing and sending* interesting and attractive materials. Nowadays, each website has a share or send button. However, our participants did not share or send news items that much (2,15/5), nor did they get news items redirected by others (2,40/5). Again, sex did not yield significant effects. *SEL*: Students of a VE and a GE forward [p=.007] and get news items more often redirected [p=.03] than students who follow(ed) TE. *Major* yielded a significant effect on both items [twice p=.000] with –again- the following pattern: JOU>INF>OC=YC. Of course, these results are

reminiscent of our observation that youngsters hardly talk offline about the news with their peers[5]. Why, then, would they share news items and current affairs online?

Participation in news items, also referred to as participatory journalism [14] includes techniques on official news sites to enhance comments and co-creation of news by laymen (weblogs, chat programs, e-mail, discussion fora, online newspapers, RSS-feeds, podcast and digital archives), but also weblogging on other than news sites, and alternative news sites produced by laymen or citizens, like *Indymedia* or *Wikinews*. Nowadays, a lot of news sites provide space for User Generated Content – or news made by citizens (e.g., 'community' on nieuws.be; 'jouw nieuws' on skynet.be and 'NUik.nl' on nu.nl). Despite the large amount of these services and techniques, only a small number of laymen makes use of them [15][16]. Our data confirm these previously reported findings. There is indeed only a substantial degree of participation when it concerns participation 'just for fun' or in order to address social contacts, not when it concerns news or materials originating from strangers. The next question one may ask is: Why? What stops youngsters to co-create serious stuff, to generate news content and comments of themselves?

4. Attitudes and Motivations towards User Generated Content for News

4.1. Is Generation Y *willing to comment* on news themselves?

Twenty-seven statements about the motivations to comment on news items were rated on 5-point Likert scales. A Principal Component Analysis with OBLIMIN rotation of these statements resulted in 5 components (see, Table 5) which explain 67% of the total variance. Factor 1: *Information* dissemination, both under the form of content and as an expression of an opinion, including items 'if I could help someone (highest rated argument)' and 'if I could make a well-argued comment' (rotation sums of squared loadings: 8,77; aggregated mean= 3,11), 2. *Fun/enjoyment* (rotation sums of squared loadings: 2,74; M=2,18), 3. *Contact* (social aspects, emotional proximity, reciprocity, friendship) (rotation sums of squared loadings: 6,64; M=3,00), 4. *External (economic) incentives*: items pertaining to money (M=2,71) and expertise ('if I was an expert on the matter' M=3,21) (rotation sums of squared loadings: 3,02) en 5. *Journalistic* skills (rotation sums of squared loadings: 5,97; M=2,38). Note that the constructs in our research are labeled by us bearing in mind other research [17][18], although these authors did not focus on UGC for news only. Stoeckl [17] reported the presence of 6 constructs, including – in descending order of importance - enjoyment, information dissemination, contact, personal documentation, passing time and external economic incentives. We did not obtain personal documentation and passing time, but instead retrieved the additional construct *Journalistic skills*, due to the features and focus of the questionnaire we used. In our research, information dissemination –both concerning content and opinion, is considered to be the most important motivation, followed by the

[5] Youngsters talk 'in between' about news and current affairs with friends or family (2,99/5). There are no differences between *men* and *women*, marginal significant effects of *SEL* [p=.06] (GE>TE>VE+) and a major effect of *Major* [p=.000] (JOU>OC>INF>YC).

social aspect (emotional proximity). The factors *fun* and *external economic incentives* have the lowest motivational potential in order to comment on news items.

This divergence between our and Stoeckl's [17] data may be caused by the present focus on news, whereas Stoeckl and colleagues have investigated applications that may be used for fun and entertainment. Indeed, a significant clue in this respect is that Stoeckl reported that especially video production is associated with fun and time passing, whereas weblogging, which may be used for fun as well as for news, was regarded as being more useful for information dissemination. It can then be quite easily inferred that the extent to which internet applications are informational and news driven, the primary motivation pertains to information dissemination, and much less to entertainment. It thus looks as if there is some tension between information dissemination motives and fun motives. Taking this argument even a bit further, it seems as if in the psychology of youngsters, fun and serious business do not mix. Some applications should be used for news, whereas others are suited for fun and enjoyment.

We obtained similar conclusion in the focus group discussions: youngsters do not post comment on news items, unless they are convinced that they have some expertise on the subject, or in case an emotional topic with important opinions is involved instead of 'pure' fact-driven knowledge (like participating in a an overheated debate). However, they do like reading comments for several reasons: for fun, for teasing, because it is nice (but not vital) to analyze to whom comments are directed at (@Melanie, @Adam), sometimes they are interesting and informative referrals in a comment, which may be valuable. From our focus group discussions, it became clear that the younger students often read comments in order to explore other opinions –to be able to form an opinion of 'their own' and to get a global perspective. However, most of these youngsters will not comment on news item themselves *"oh no"*.

Table 5: Component loadings of UGComment motivations "I would be willing to post a comment if/because …"

Pattern Matrix[a]					
	Component				
	1	2	3	4	5
I could help someone *3,46**	,760	,016	,148	,085	,272
I could share my opinion *3,14*	,737	-,015	-,018	,021	-,189
It's important others hear another opinion *3,07*	,732	,029	-,015	-,040	-,155
I like to discuss with others *3,19*	,724	,062	,016	-,018	-,157
I can express my sympathy/envy toward others	,654	,139	,152	-,066	-,118
I could inform another person	,643	-,074	,004	,321	-,027
I get angry about the shortsightedness of others	,504	,006	-,053	,199	-,292
I could make a well-argued comment *3,20*	,374	-,317	,309	,308	-,266
I had substantial/substantive content to add *3,26*	,340	-,332	,313	,264	-,321
just for the fun of it	-,009	,757	,109	,070	,021
I can write whatever I want	-,026	,572	,058	,088	-,392
to provoke reactions	,231	,568	-,026	,078	-,366
it would be nonsense because that's fun	,533	,535	,184	-,108	,213
I can write humoristic/funny	,108	,502	,060	,269	-,355
it would be an article of a friend/acquaintance	-,066	,013	,796	,161	,014
it concerned something from my own (physical or emotional) environment *3,32*	,139	-,145	,756	-,147	-,137
friends also have submit a reaction	-,119	,272	,736	,114	,043

the news is linked to my Facebook page	-,017	,286	,584	,095	-,010
the subject touches/concerns me	,407	-,132	,584	-,270	-,098
I could make a difference to something or someone *3,42*	,457	-,286	,496	-,054	-,062
it would be easy (in IT terms) to comment (no registration or complicated downloads *3,08*	,282	-,073	,420	,192	-,168
I got money for it	-,034	,217	,035	,779	,164
I was an expert on the subject *3,21*	,194	-,259	,321	,581	-,129
I want to become a journalist	-,130	,106	,217	-,163	-,833
I like to write	,276	,017	-,003	-,066	-,724
I can criticize the article or item	,142	,013	,011	,229	-,678
I could set things straight	,455	,143	-,073	,000	-,546

Note: Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization. a. Rotation converged in 19 iterations. * exact mean values if >3/5.

Analyses of sex, SEL and Major were subsequently conducted on the component scores. *Men* experience higher motivations related to fun [p=.004] and extrinsic (economic) incentives [p=.000]. *Major* has an impact on all but the fun-arguments [information dissemination: p=.002; Contact: p=01; Extrinsic economic incentive: p=, 000 and journalistic skills: p=000]. Students JOU found the Information argument more important than the other Major groups (JOU>INF>OC>YC). The same applies to the Contact argument (JOU>YC>OC>INF) and –maybe not surprisingly- for the Journalism component. Students INF scored significantly higher on the extrinsic economic argument (INF>JOU>OC>YC). *SEL*: The fun-factor was affected by the level of education at secondary school [p=.05]. Students of the TE rated this argument much higher than their siblings at the GE and VE+ (TE>>ASO>BSO). Students with a GE rated the extrinsic economic factor higher (money and expertise [p=.03] (ASO>TSO>BSO) as well as the journalism component [p=.002] (ASO > TSO=BSO).

4.2. What are their attitudes towards UGComment on news items by laymen *other than themselves* ?

It was revealed that youngsters judge to some degree that it should be clear that a comment originates from laymen (M=3,45), and that these citizens should only put a comment if they are knowledgeable of the subject (M=3,45). Participants did not agree that much with positive UGComment outcomes – like that comment offers referrals, comments are valuable/surplus, comments help journalists to remain critical - (aggregated M=2,72) but it should be acknowledged that they were neither very negative about it – like that comments have too many typos, are often off-topic, have too many false arguments, are useless, are nonsense - (aggregated M=2,67). Nevertheless, UGComment should not really be supervised by gatekeepers, nor should gatekeepers select comments, nor should laymen be identifiable by their name (anonymity is accepted) (aggregated M=2,51). However, despite these liberal opinions, youngster do not *trust* UGComment (M=1,88). In sum, it seems as if UGComments can exist, may or may not be consulted and valuated, may or may not have typos and false arguments, and laymen should be able to post comment, in their (wrong) way, as long as it remains clear that is comes from 'just a citizen', but this comment (mostly) will be evaluated as unreliable and not to be trusted.

Men evaluate significantly more that UGComment is full of typos, false arguments and is off-topic [all p<.08], but women agree more in a gatekeeper selecting [p=.04]. Furthermore, with respect to SEL, especially the GE group agrees with the idea that UGComments are full of typos and false arguments [p=.001 and p=.02 respectively, GE>TE>VE+]. Concerning *Major*, it was revealed that students JOU – respectively followed by INF, OC and YC- give significantly higher agreement scores at both positive [p<.05] *and* negative outcomes [p=.000]. Students JOU are also stricter and less liberal concerning the publication of UGComments. Actually, they see more possible benefits in the phenomenon, at least to the extent that laymen are knowledgeable and as long as there is some selection and supervision from an official gatekeeper. Students INF also perceive positive outcomes, and also agree that typos and false arguments are present in UGComments, but they were significantly more liberal, not agreeing with a kind of supervision [p=.000] or selection [p=.01] from a gatekeeper. Finally, with respect to trust, we did not obtain effects of sex, Major and SEL.

4.3. Attitudes towards UGContent (actual news items) by laymen *other than themselves* ?

Online, self published current affairs (journalism) built on reader contributions offer alternatives to established news providers. To what extent are youngsters interested in 'viewing' or reading such User Generated Contributions? Generation Y agrees mostly that news items should be reported by professional journalists (M=3,14), and even by professionals working in official news firms (M=3,21). When it would come to citizen participation for important news, youngsters agree with supervision and selection (M=3,07), and intervention in case of indecent language (M=3,03). *Women* again were more in agreement with the idea that supervisors should intervene for indecent language and for false arguments than *men* [p=.006 and p=.04 respectively]. *SEL*: GE students were stricter, agreeing more with items that 'only journalists should make news items', 'that there should be intervention for typos', 'indecent language' and 'false arguments' and they agreed more with a selection made by supervisors or gatekeepers than did students TE and VE+ colleagues [all p~001]. *Major*: Students Journalism were the most strict in allowing UGC for actual news, followed by students INF and OC [all p<.05]. They see more danger in UGContent (or defend their branch?). The opposite is true for the youngest participants (YC): they were most liberal and perceive less danger in UGContent.

When asked if they feared UGC to bear *unreliable/untrustworthy* news in the future (M=3,27), no differences between the sexes and between different secondary education programs (*SEL*) emerged. Again, students JOU (along with the older controls) agreed more than did students INF that UGC will bring us increasingly unreliable news, and, again, the least suspicious were the YC [p<.05].

With respect to the dichotomy *usage* versus *trust*, the focus group discussions revealed a similar pattern. Youngsters use a bunch of new media and applications, not only for enjoyment and fun. For instance, Wikipedia is often consulted, and judged as important. However, when being questioned more thoroughly, focus group participants indicated that they had doubts on the reliability of information produced and (re)(co)created by users. In a survey of online consumers conducted in the US, Jupiter Research [19] found even among consumers of new media varying degrees of trust in

these media. While blogs and social news aggregators have become increasingly popular, even their users do not regard them as being as trustworthy as the traditional news media. In line with this, our focus participants emphasized that they had a great confidence in authorities, like journalists (but also like teachers or other specialists/professionals with more knowledge or competences then they believed to possess).

5. What about peer to peer distribution (*seeding*) of media content?

Youngsters use the internet frequently and intensively (see research aim (i)) for many reasons: communication, entertainment, social contact and information gathering, and specifically news. Although they embrace the conversational nature of interactive online media, and media and content are not resources for passive consumption, but pieces of sharable conversations [20], our results reveal that they are not waiting for UGComment and certainly not for UGContent for news (see research aim (ii)). Youngsters are often seen as the early adopters of several web 2.0 applications, like YouTube, MySpace and Facebook. The whole web 2.0 idea behind news dissemination, however, does not really appeal to youngsters, although they do not oppose it. Why? For a start, they ascribe greater value to traditional and official media sources and formats for news, which are perceived as being more accurate, reliable and trustworthy (see research aim (iv)). Youngsters seem to appreciate authorities (and authenticity), which is by no means limited to news. It is symptomatic in this regard that a Dutch youth organization Happy Chaos calls for *more* authority. Youngsters are annoyed by teachers who want to be their best friends, or politicians who want to close the gap between themselves and citizens [21]. Second, youngsters are neither waiting for news –even from professionals- on *their* applications associated with fun and within the private sphere. They want a clear-cut distinction between fun and information. Youngsters thus use a whole spectrum of applications, but every application serves its own purpose. Because they have much information available as well as a whole array of applications, they want to find the important stuff where it always was, made by instances they can trust. A penetration of web 2.0 or 3.0 *tools* into news is not perceived as being necessary. Third, youngsters often do not use web 2.0 to reach a broad public, to create new opportunities and new friendships, but they use it as an extension of their offline life. Social network sites are used as an extra communication tool among friends, who often meet face-to-face. These social media support communication among friends, enabling pleasurable activities that lend themselves to sharing, such as music listening, gaming, and posting pictures and videos.

If youngsters are hardly creating news and seldom comment on news, it is still possible that they participate in lower levels of *seeding* such as the distribution of existing news items (research aim (iii) ? What is seen as worthwhile for sending, sharing or posting materials on their SNS wall or weblog? What kind of topics are being shared? Do they touch on news stories?

In order to explore this question – mainly as a starting point for follow-up research- an exploratory study with 28 interviewed youngsters aged 16-25 years was conducted, with the aim of probing into their motivations to share and receive general and news content with and from their peers. This exploratory qualitative round also indicated the importance of the social network as a disseminator for *fun* and entertainment purposes.

In particular, social networks appear to be of utmost importance for spreading humorous and sensational content, especially under the form of movies and pictures. Our abovementioned conclusion on the clear distinction between fun and 'serious' news thus also holds for this kind of 'low-level' seeding (i.e., distributing). The social network environment is *not* perceived as a disseminator for serious news and information by the interviewed youngsters. Our finding confirm Thelwall [22] who mentioned that the emergence of web 2.0 has not involved the dissemination of news in any significant way [22]. Individuals may occasionally spread and receive items, but only if they are touched emotionally by the topic, or when discussing an entertainment-related subject that is covered in the news, such as the launch of a new popular film. Our interviewed persons told us that they receive and send the entertainment-related information exclusively from and to friends and family. As stated by Thelwall: *"While individuals sometimes follow the news for the primary purpose of generating conversation topics, this appears not to occur significantly in popular social network environments, which is disappointing."* [22].

Li [23] classified consumers into six overlapping levels of social computer behavior. *Creators* are consumers who publish web pages, publish or maintain a blog, upload video or music they created, or write and post stories or articles. *Critics* are consumers who comment on blogs, post ratings and reviews, contribute to online forms, or contribute to/edit articles on a wiki. *Collectors* are consumers who use RSS, tag web pages, or vote for websites online. *Joiners* are consumers who visit social networking sites or maintain a profile on social networking sites. *Spectators* are consumers who read blogs, watch peer-generated video, listen to podcasts, read online forums, or read customer ratings/reviews. *Inactives* are consumers who do none of these activities. Bearing this classification in mind, our explorative round revealed that although every interviewed youngster is at least joiner and spectator in general (i.e., not for news purposes), real seeding behavior still is in its infancy. Only 5 out of 28 also upload video content and music to share with their friends and family. Interestingly, we did not note any impact of education, sex, or age on these youngsters' participation level. Hence, social media seem to have a very inclusive potential. As these recipients mainly read or view shared content they can be called lurkers [17] or leechers [18] (which is not quite the same as inactives [23]). In the context of UGC, 90% of the *users* are lurkers who never contribute, whereas 9% of the users contribute a little, and 1% of the users account for almost all contributions [17]. There is thus only a small minority that actively participates (referred to as seeders), while the majority does not contribute at all (free-riders or leechers). The majority (62.2%) of web users rarely engage in seeding behavior and only a minority (8%) of web users are overall high-frequency seeders [18].

Contrary to their extensive web usage, adolescents do not adopt frequently the practice of content seeding [18]. High- and low-frequency seeders, however, undisputedly have one thing in common: they both use the WWW and obtain a certain amount of (in our research as fun related) gratification from it. Still, perhaps this research came a little bit too early and perhaps in the near future a different picture may occur. Anyway, we suggest that future studies focus on the effects of content and user characteristics on degree and kind of seeding behavior. What will the future bring us ? We will see(d) !

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SHAREIT, e-inclusion, social inclusion and vulnerable youth

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1 What are the aims of SHAREIT[1]?

SHAREIT aims to promote cohesion through making available the most innovative and performing ICT tools, courses and insights into technology to the socially and economically vulnerable groups. What constitutes vulnerable youth means something different in different member states; second generation migrant youth and their local counterparts in Venice, Euro orphans in Timis and Malapolska. We find different actualizations in different EU countries, but SHAREIT assumes that there is an underlying pattern: the risks of alienation and possibilities for social contact and possible social cohesion in social networks.

In order to be able to create a policy context for the main question outlined above in a 18 month period SHAREIT focuses on a particular group of young people; youth at risk or vulnerable youth. Specific objectives are

- To identify good practices on the efficient use of ICT, to foster integration and strengthen a sense of Europeanness among young migrants and natives.
- To promote social inclusion making available the most innovative and performing ICT tools, courses and insights into technology to young people facing social and economic exclusion.
- To set policy recommendations at local government level that can be transferable in other EU contexts.
- To raise awareness on the use of ICT tools as a mean for social inclusion among social operators, policy makers, and vulnerable groups.

In *Venice*, the Veneto Region, immigration is a long-term structural phenomenon. The City of Venice Strategic Plan understands the urban welfare as both communitarian and local; therefore, it will be social and inclusive. In this framework, Veneto Region gives a financial support to Italian language courses to foreigners. In year 1990, Veneto Region approved a regional law for developing the regional network of migrants associations, with the aim of building strong relationships between migrants and local population. It is of fundamental importance that newly arrived young

[1] http://www.peopleshareit.eu/

migrants receive the basic information about the city and education opportunities for improving their social and cultural integration.

Immigration in *Timis*, has become, in the last years, one of the sources of new social issues and the preoccupation of the local authorities for the immigrant population is increasing. Romania has a high number of immigrants in many European countries and Romanian communities have also adopted the use of IT in keeping a close contact within the same community or with friends and families from home. *DGASPC Timis* has extensive experience in dealing with social care issues at the level of the county of Timis.

In Poland emigration has become an important social issue. Whole communities of Polish immigrants of so-called "new-wave" live in European countries, such as Great Britain or Ireland. The migration processes have also a big impact on the social life, for example they have changed the labour market. Seeking for better job conditions forced many adults to go abroad alone leaving their children at home with relatives. This resulted in the new phenomenon of Euro-orphans. The ShareIT project will help in providing policy recommendations allowing for successful and effective work with young people at risk of social exclusion due to migration processes. The project is accordant with the Development Strategy of the *Małopolska Region* for 2007-2013 as well as with the document "Information Society Development Trends in Malopolskie Voivodeship 2007-2010". It also corresponds to the research led within the INCLUSO 7FP (Social software for inclusion of (marginalised) young people) project realised in Poland by *U Siemachy Association,* where the main goal is to provide verifiable proof that social software foster social inclusion of marginalised youngsters.

Through practical design processes, the Stockholms partners investigate Digital Storytelling as a tool for deep learning. The practical design process and methodology builds on a framework for researching and evaluating the process. The target group are 14-15 years old, second generation immigrants and native Swedes in the socially challenged areas of Rinkeby and Tumba, and the pilot is conducted in close collaboration with the schools and teachers of two schools in the areas.

The added value of the partnership is that it entails all the key roles that are necessary to produce innovation in the area that we target: a) real questions in local government organisations (Venice, Malapolska, Timis), expertise on education in networked and wireless innovation (Stockholm, Noord-Brabant) and expertise on creativity and innovative interaction design in community arts projects (Stockholm, Noord-Brabant).

2 Working on a regional level with regional players.

SHARE IT is a subproject of the PEOPLE mini-programme and it's sub-theme 'Social and e-inclusion'. The PEOPLE mini-programme aims to have knowledge exchange take place concerning regional solutions to the adverse consequences of demographic change. All European regions have to deal with a number of communal strengths, weaknesses, opportunities and threats in the field of the aspiration to create prosperity,

welfare and social cohesion. In summary, it may be concluded that all the regions are faced with demographic changes such as ageing and increasing ethnic and cultural diversity. These demographic changes are relatively predictable and will play out over an extended period of a number of decades. Within the framework of the PEOPLE's sub-theme 'Social & e-inclusion' regional policy makers are looking for good practices and innovative solutions to promote the social participation of vulnerable groups using ICT in particular and we aim to learn from these.

3 What do regional policy officers want to achieve?

The intended result, in the framework of this sub-theme, is a society in which everyone participates in social life irrespective of limitations, vulnerabilities or characteristics in order to improve quality of life and contributes to economic life where possible. Of primary importance are equal opportunities and fully-fledged citizenship for everyone. Exclusion due to limitations, vulnerabilities, characteristics or whatever cause must be prevented and combated. In connection with this it is primarily the increasing digitisation and the importance of ICT in society which should not exclude, but should conversely include vulnerable groups in society. ICT as an opportunity must be used in an optimum manner and should be part of the solution.
On the other hand ICT can also be seen as a threat to vulnerable groups who are not sufficiently equipped to use ICT or don't have access to ICT such as poorly educated, the illiterate and speakers of other languages or people who are living in a neighbourhood without broadband. These groups don't have access to all kinds of digital services. For this sub-theme the definition of the term 'social participation' is 'participating in society' in the broadest sense of the word.

This concerns fully-fledged and active citizenship. This concerns participation in the essential aspects of social life. In an ideal society, everyone is self-sufficient, able to provide their own income, to work, to be educated, to participate in sports and culture, to maintain social contacts and to influence their living environment, the administration and politics. People also are/feel communally responsible for social cohesion in society and the quality of life of others because this is not all the government's responsibility. This is why people do volunteer work, look after other people's interests and are involved in their living environment. The logical extension of this is that, in principle, the target group in this sub-theme consists of everyone in society in all its diversity.

4 How is PEOPLE going to achieve this?

The programme wishes to achieve the social results outlined above using innovative solutions and practices. On the basis of proven effectiveness, this solely takes place by means of practices and solutions which:

- 1a. Result from or are part of integral policy development including integral problem analysis and planning or
- 1b. Use the integral nature of services and products provided in mutual

cohesion.

- 2. Use a demand-driven approach.

This means that users are involved in policy development, product development and implementation from the start. This concerns also vulnerable and excluded people. They have to be encouraged into inclusion.

5 Does e -inclusion lead to social inclusion? Why is that a question now? Has not increasing literacy always increased social and economic practice and social mobility*?*

For most people in the EU the internet is 17 years old. For them it did not start with Arpanet and distributed systems, but with the browser, Mosaic, then Netscape, Christmas 1993. Up until tcp/ip, the global protocol that works fully democratic at the lowest level: your mail goes as fast through the network as the email of EU President Herman van Rompuy, we came from a socio-economic, legal and psychological framework of the book. In 1455 the first book was published, the Gutenberg bible. In the Netherlands the first public libraries came about in early 1900s. For over hundreds of years the decisionmaking between data and noise, data and information, what is knowledge to whom and what is relevant at what particular time, was forged through formats of socialization: schools, universities, governance models, in short a rather small number of powerful nodes. From the beginning of the history of techné in the Western world the relationship between new forms of technology (mostly focusing on outsourcing memory to devices) and the real practicalities of society was always strained. This runs very deep into the heart of our Western culture. In the *Phaedrus* Socrates states that writing is a lower form of face to face dialogue:

> *"Soc. I cannot help feeling, Phaedrus, that writing is unfortunately like painting; for the creations of the painter have the attitude of life, and yet if you ask them a question they preserve a solemn silence. And the same may be said of speeches. You would imagine that they had intelligence, but if you want to know anything and put a question to one of them, the speaker always gives one unvarying answer."*

The techno optimisim of the Industrial Revolution that led to our current educational system was a period where seemed to be less tension between the inventions and protocols of technology and a society that kept going 'forward' and believed in progress. In this period the question, "Does knowledge of technological systems and tools will help you get a job, find a circle of friends, get you a position in which you can keep educating yourself and your environment?" could only be answered in the affirmative. The fact that we can perceive the question *as* a question at all in the current EU context alerts us to the fact that something is changing. We seem not to be able to assume that progress in one sphere will lead to progress in the other. This in a time with the fastest uptake of new technologies ever in history, the most connected citizens, the most densely distributed networks and the cheapest applications in content (once you are connected), most of them for free. The divide in society and the exclusion of vulnerable groups has been exacerbated by the economic crisis but also

by longer-term processes. Connecting with society involves keeping up with society's increasing complexity and the growing importance of ICT. The acceleration of individual agency and possibilities to organize in peer groups is growing exponentially since the world wide web and the mobile phone. This is coupled by demographic changes in both overall nature (ageing) and in the ethnic rapid changing of the inner cities in Europe. In a paradoxical way youth is both empowered by new media and new technologies and disempowered growing up in inner cities, facing bleak job prospects, discrimination and the lure of the illegal.

Within the context of the information society, access to computers and internet is considered to be a new faultline in social exclusion. This results in numerous initiatives on e-inclusion. There is however a second development, that of evidence-based practice, the approach that wants results of effectiveness studies to be an important inspiration for practice. At the crossroad of these developments lies the issue of whether e-inclusion interventions are effective, of whether they reach their aim. It is common to label projects as 'good practices', but do we have an assessment framework to justify using labels such as 'good' or 'best'? Does providing excluded citizens with access to computers and internet indeed help them to become socially included? And can we distinguish different types of initiatives and assess them according to their effectiveness?

Within social cohesion there is a major distinction between bonding social capital (belonging to a group) en bridging social capital (to link to other social groups). "Bonding social capital is, as Xavier de Souza Briggs puts it, good for 'getting by', but bridging social capital is crucial for 'getting ahead'." (Robert Putnam). A second important notion is the power of weak ties. If you are looking for work a few very intimate and strongly tied friends are less important then a great number of loose social contacts, weak ties that can give you tips from many directions.[2]

6 Bricolabs discussion list: discussion on Digital Inclusion:

Recently, James Wallbank[3] of Access Space, Sheffield, wrote to the discussion list of Bricolabs[4] Access Space has become involved in a multi-million euro trans-regional

[2] "How much can a computer help you if you can't read? How much does a mobile phone help you if you don't have friends or business contacts? (James Wallbank), Granovetter, M. (1973). "The strength of weak ties." American journal of sociology **78**(1360-1380).

[3] From: "James Wallbank" <james@lowtech.org> Date: Thu, February 18, 2010 16:41 To: "Bricolabs startup mailinglist" <brico@lists.dyne.org>

[4] A distributed network for global and local development of generic infrastructures incrementally developed by communities. A global platform to investigate the new loop of **open content, software and hardware for community applications**, bringing people together with new technologies and distributed connectivity, unlike

project to promote "Digital Inclusion". The whole project is based around some very simple propositions:

- "Digital" is good for the economy and cheaper for government.
- "Inclusion" is good for the citizen.
- "Digital" is a route to "Inclusion".
- Therefore "Digital Inclusion" is good for the citizen.

He describes how discussing the output for the project at committee meetings, where various local government bureaucrats and educators discuss how the project is progressing, a question that emerged was "What *exactly* is the definition of Digital Inclusion?" The thing that shocked him was that nobody was quite sure:

"Does "digital inclusion" mean being able to watch digital TV? Sure "Inclusion" is good. And we have some good definitions of "Social Inclusion" and "Social Exclusion". There is even a list of "indeces of Social Exclusion" - things which make it likely that people are socially excluded. (Things like illiteracy, homelessness, alcoholism, unemployment, disability, family breakdown, criminal convictions, drug use, mental health problems). Have one of these factors and you may be socially excluded. Have several of them, and it's almost certain.

> *"Sure "Digital" is good. There are lots of definitions of what digital is, and it's clear that digital technologies can be empowering. However, who is digital best for? It's quite good for the citizen, but it's very, very good for business and government. Technology may be an amplifier of opportunity that puts individual citizens in a less powerful relative position. And just because "Digital" is good and "Inclusion" is good, does this mean that "Digital Inclusion" is super-good?*
>
> *How much can a computer help you if you can't read? How much does a mobile phone help you if you don't have friends or business contacts? And if you have a low level of engagement and skill (like, say, some of the kids who have caused problems at Access Space) then getting digital skills can waste your time, damage your health, violate your privacy, reduce your chances of employment, isolate you from real-world relationships and stunt your social skills. Is that what we're aiming at "Digital Literacy" PLUS "Social Inclusion" PLUS "Available Opportunities" EQUALS "Digital Empowerment"?"*

Hellekin replies on the brico list: "All the points you address in your message above relate to the Digital Divide: computer literacy (and simply: literacy), social inclusion, etc. If Digital Inclusion is about growing the consumer base of technological products, it's worse than worthless. For people who acquire devices without understanding how

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the dominant focus of IT industry on security, surveillance and monopoly of information and infrastructures.

they work, or be unable to study them because they're patented or otherwise proprietary, won't make it to "digital citizenship" but merely to "yet another global market agent".”

7 Evidence based practice

According to Jan Steyaert[5] doing something with good intentions and hard work is no guarantee that the hoped for results are achieved:

> *“At the crossroad of these developments lies the issue of whether e-inclusion interventions are effective, of whether they reach their aim. It is common to label projects as ‘good practices’, but do we have an assessment framework to justify using labels such as ‘good’? Does providing excluded citizens with access to computers and internet indeed help them to become socially included? And can we distinguish different types of initiatives and assess them according to their effectiveness?“*

He lists three building stones for an assessment framework; access, actual use of the resources (a UK study finds a positive correlation of ICT and formal educational goals for girls, not for boys) and differential consequences of usage. Referring to the work of Jo Blanden he points to the democratization of higher education: “more students participated in higher education but on average they came from better-off households. As a consequence, social exclusion increased and social mobility decreased, which was precisely the effects the democratization of higher education hoped to avoid.“ Matching these building stones with a more general framework of evidence based practice (the key to which is “that it provides room for every intervention to proof its effectiveness”) leads to the constructing of an effectiveness ladder that “classifies and orders methodologies according to their strength and trustworthiness”:

- a ‘zero level’ consisting of highly subjective marketing information about some specific intervention. The claims based on this type of information should be treated as suspicious.
- expert opinions, descriptive studies or case studies. The claims made here can be contradictory and ragenge from highly subjective to very rich. As evidence this counts as ‘weak’.
- the strongest available methodology to demonstrate effectiveness of an intervention, are the random controlled trials (RTC’s):

“A sample of the target population is randomly assigned to either receive the intervention or have some other kind of treatment or placebo. When possible, the setting is ‘double blind’ so that neither the participants nor the professionals know which person belongs in the experimental group and which in the control group.

[5] Jan Steyaert, **Where the worlds of e-inclusion and evidence based practice meet**, cf. the article in this publication.

Resulting differences can strongly be attributed to the intervention, hence demonstrating its effectiveness (or lack thereof). "

8 Target groups within SHAREIT

The target groups within SHAREIT reflect the duality of the proposition. Euro orphans in Poland and Romania may have access to and a great variety of digital tools, games and hardware, yet they are growing up with their grandparents or aunts, a generation that has grown up in a different era. Migrants in Italy might be quite clever users of mobile technologies in order to navigate through 'safe' spaces, yet are they socially included?

8.1 Poland

The group of Euro-orphans is one of phenomena that emerged after opening European labour market for Polish citizens. There is no official definition of Euro-orphans; the very notion was discovered by Polish media, which explored the subject and delivered some information, mostly based on "case studies" - personal stories of children and young people living alone after their parents had gone abroad. The term is being used in the social work field but people use it intuitively also in the everyday conversations. The group is hardly recognised - there is very little research on this subject. That is why the phenomenon needs to be researched, studied and described.

Euro-orphans can be defined as minors whose one or both parents emigrated for economic reasons for a longer period of time. Euro-orphans stay in Poland in majority with one parent. Those whose both parents work abroad stay alone or under supervision of grandparents, other relatives or even neighbours. However, the issue of legal guardianship is rarely taken into consideration by parents. As the result, in case of any troubles (ex. hospitalisation) there is nobody to take decisions on behalf of a child. According to the quantitative research held in the region of Malopolska, 8% (over 36 000) of all children and young people at school age living in the region have at least one parent abroad.

The scale is impressive though. In most cases (6% of the population) it is father who emigrates. The research shows that there is no strict correlation between emigration of parents and negative attitudes and behaviours such as school absence, worse school results, emotional problems, depression or aggression. However, the risk of development of these behaviours has been highlighted. It is worth mentioning that the research was done not among the children and young people themselves, but through their schools. Moreover, it focused more on the scale of the phenomenon that on the psychological influence of parents' emigration on young people. "U Siemachy" Association, the Polish ShareIT partner, wants to fill this gap. We want to focus on psychological needs of Euro-orphans and to find out how we can satisfy them with help of new technologies, to prevent social exclusion of our target group. To achieve this we are running a multidimensional qualitative research among school students of different age. We are using various research techniques, including focus group interviews, individual interviews and practical technology testing. In the end of the

process "U Siemachy" Association, using the input from the research, will implement a pilot project providing for Euro-orphans opportunity to use new technologies and social software for their social and psychological benefit.

8.2 Romania

With Romania joining the European Union and the opening of the job markets for Romanians within the other European countries and not only, several Romanians have chosen the road of migration in search for better work conditions. One of the effects of this phenomenon is the children left at home, the so called Euro Orphans. Euro Orphans represent the group of children that have at least one of their parents working abroad for more than 6 months. Researches held so far showed some of the consequence on both emotional and social levels for this category of children at risk.

Within the ShareIt subproject, the General Directorate for Social Affairs and Child Protection Timis (DGASPC Timis) through the Psychology Department at West University of Timisoara, Romania lead by Dr. Florin Alin Sava, is holding a research with the aim of identifying the methods of promoting the social inclusion of Euro Orphans through the use of Information and
Communication Technology.

The location of the research is the city of Timisoara, with a chosen target group of secondary school students. The research will include qualitative and quantitative methods and expects to identify the number of Euro Orphans of secondary school in Timisoara, the use of ICT tools by the target group, the emotional and behavioral patterns of Euro Orphans as part of the absence of their parents, the cases of social exclusion that Euro Orphans are facing. The qualitative research will be based on in depth interviews with the aim of offering further details of the impact of the ICT tools in promoting social inclusion and will consist in a focus group.

In this research the concept of social exclusion was measured taking into account several dimensions:

- educational perspective (inappropriate school behavior that can lead to underachievement and deviant behavior)
- social perspective (the subjective perception of being excluded from various peer groups);
- emotional perspective (the extend of psychological
- vulnerabilities present in the target group)
- economical perspective (less material resources available in families of adolescents included in this study).

All these dimensions could lead to social exclusion (fewer chances to integrate well within Romanian society).

9 The challenge of using new technologies: wireless worlds bridging virtual and analogue

Building on her work on *Amsterdam Realtime*[6] where she realized her visualizations could stand alone as poetic evocations, Esther Polak and Ieva Auzina appropriated in Milk[7] the GPS trajectories to create and facilitate meaningful stories and opened up new forms and fields of research. *Biomapping*[8] is "a research project which explores new ways that we as individuals can make use of the information we can gather about our own bodies. Instead of security technologies that are designed to control our behaviour, this project envisages new tools that allows people to selectively share and interpret their own bio data." Christian Nold investigates individual agency over special constraints. Marcus Kirsch is investigating these questions in *Urban Eyes*[9] a "critical design concept combining RFID technology, CCTV cameras and pigeons to create a unique service for urban spaces."

Wireless is increasingly pulling in all kinds of applications, platforms, services and objects (RFID) into networks. Many people communicate through mobiles, Blackberries, digital organisers and palmtops. Cars have become information spaces with navigational systems, and consoles, like Nintendo DS and Sony PSP, have wireless capabilities and Linux kernels installed. We are witnessing a move towards pervasive computing as technology vanishes into intelligent clothing and wearables, smart environments (which know where and who we are) and pervasive games. We will see doors opening for some and closing for others. Mimicry and camouflage will become part of application design. iPods will display colours and produce sounds that correspond to your surroundings.

In the sixties Guy Debord developed a theory and practice on how people perceive their immediate surroundings and space, psychogeography. It describes the effects a geographical environment has on our emotions and behaviour. This environment is becoming more and more hybrid: on top of our analogue world (us, carts, streets, trees, buildings…) we find ever more digital connectivity through small computers that do not look like computers anymore. These digital objects: mobile phones, cameras, mosquito's, rfid[10] and all kinds of sensors are infuencing the way we relate

[6] http://www.waag.org/project/realtime
[7] http://www.milkproject.net/en/fla/main.html
[8] http://biomapping.net/
[9] http://www.we-make-money-not-art.com/archives/2006/02/im-getting-fed-1.php
[10] As RFID is pull technology, the RFID reader emitting energy so that the passive tag gives its unique number (says hello, here I am) the EPC Global network layout makes it possible to track a bottle in your room (provided there is a reader in your door, floor, building) through a simple web query by typing the unique ID number (available through retail channels) as the ID of the bottle is logged into the local database (your computer, work server, office building network) which is hooked up to the EPC Global network. In this database through an RFID scripting language called Savant, the item's log is sent to an Object Name Server (ONS) where it can be

to our daily environments just as intensely as the analogue ones.

10 Using digital storytelling as a vehicle for digital and social inclusion – the Stockholm pilot

Digital storytelling is an excellent vehicle for fostering intergenerational interaction between youth and elders. In the Stockholm pilot, work is carried out in a process where young people interview adults and elderly in their local communities and through digital media and technology, foster participation and dialogue across generations and the community to share, record, and value stories from their lives. While the term "digital storytelling" has been used to describe various forms of media practices, we emphasise the first-person narrative, meaningful workshop processes, and participatory production methods. There are several ways in which digital storytelling can help mitigate social exclusion, through the empowerment of individuals with multimedia tools for storytelling. A 'by-product' of this process is that individuals become more critical of the messages they receive through the media. Digital storytelling maybe a stepping stone for social (or participatory) media literacy.

There is a defined methodology to go about this empowerment - very much developed - by the Center for Digital Storytelling (www.storycenter.org) – with re-interpretations that vary from school to school, culture to culture. Independently of the different flavors that this methodology comes in, it is a grassroots movement, empowering of the individual, and through him/her, of his/her community. For this reason, some of the most interesting experiences have taken place with challenged communities: cultural diasporas, minorities, at-risk youth, etc etc.

11 Actualizing digital storytelling in a mini pilot:

Although the time frame and scope of SHAREIT cannot be scrutinized within the Steyaert effectiveness ladder outlined here above, the key issues of aligning research, real trials or pilots on the ground and policy recommendations will have to be able to address the question: Does e-inclusion lead to social inclusion and consequently his three steps of a) issues of access, specific forms of research and his notion of a random trial. Therefore SHARE IT aims to make the two key notions that are available – bridging/bonding and the power of weak ties – operational in two minipiliots in Poland, Malapolska region and Romania, Timis that will run from september to december 2010. Actualizing actual use of ICT and the merging of virtual and real worlds that is happening on our streets means

- using digital storytelling and location as a way to bring the three targetgroups; policy makers, social operators and the primary target group

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accessed via the web, for example from Tokyo. It is very difficult for a system to get so global, local, real-time and easy accessible.

(migrants, Euro Orphans) groups into direct contact.

- extending the classroom, citizenship course classroom (in Venice) into the'real world? Can we use sms with prepaid phones? Can we use more sophisticated gps software, like Foursquare (recently bought by Facebook? Can we use this realtime tool for social issues? You have a conversation with a migrant, you earn citizen points in your realtime account that will get you a theatre ticket? What caan be the role of popular social networks for more formal purposes?

- finding innovative ways of bonding Euro Orphans over national borders and bonding them with their families abroad while bridging them to their societal potential

- bridging the hard core facts of the citizen inclusion 'toolkit' with the playful qualities of the proposed scenarios from the storytelling methods : "Where do I find this, where do I find that? When is this open? Are there any doctors I can go to if I am illegal? Where can I find people that will help me to learn the language? What do I need when I am a Polish person in the UK and want to go back?[11] Are there any places where I can get information on work? have I built up a pension?"

As the SHAREIT project at the moment of writing (June 2010) fully in the research phase, interested parties can follow the ongoing work, results and minipilots methodology and toolkit online at http://www.peopleshareit.eu

[11] (see Powrotnik, nawigacja dla powracajacych, www. powroty.gov.pl)

Taking Things Beyond the Experimental Stage. An Integrative Approach to Online Strategies in Social Services.

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Abstract. Young people in Flanders spend considerable amounts of their time online and an increasing number of welfare services are exploring the opportunities of social media towards their target groups. Accessible and high quality welfare services are crucial in the battle against exclusion. This practice based paper aims to take a closer look into the challenge of accessibility. By illustrating the developments in the JACs, Flanders' leading youth welfare centres, we will describe how ICT is used as a strategy to combat barriers and increase access for youngsters and in particular for those hard to reach. We conclude by making a call for further research to evaluate the effects of ICT in social work in order to inspire, nourish and innovate social work practice.

Keywords: social work, youngsters, ICT, accessibility

1 Introduction

A recent Flemish study about media ownership and media use shows 94 % of youngsters between 12 and 18 have internet access at home. The majority has access in the privacy of their own bedroom. On average they spend a little over 2 hours a day surfing the internet, e-mailing and chatting. 87% of Flemish teens have an account on one or several social network sites. Netlog currently beats Facebook by 74% vs. 67% (Grafitti Jeugddienst vzw & Jeugdwerknet vzw, 2010)

Spending so much of their free time online, one might expect that the internet is also the place where youngsters start their search for answers and solutions when they have questions or problems.

Youth welfare organisations notice an increasing demand for chat and e-mail. If we take a closer look at last year's registration figures, the Youth Advice Centres[1] (JAC) had an increase of 23 % in chat and e-mail contacts compared to the figures from 2008. These figures also show that despite the fact that the JACs have expanded their online service during 2009, the demand is still significantly bigger than the supply. (Mendonck et al. 2009 & 2010)

Although the use of e-mail and chat in Flemish welfare services is certainly not new[2], there is an increase and diversification in the use of ICT applications. Interesting to note is the widely spread assumption that e-mail, chat and social media in general can make social services more accessible[3]. The arguments to support this statement are the following. Because of their specific characteristics, e-mail and chat can lower the barriers that clients encounter towards professional caretakers and thus make it easier for help seekers to take the first step. Therefore help seekers are more likely to get into contact with social services at an earlier stage before the problem escalates. The same argument goes for outreaching activities on social network sites, chatsites and community platforms.

This practice based paper aims to take a closer look into this issue of accessibility. By illustrating the developments in the JACs, we will describe how ICT is used as a strategy to combat barriers and increase access for youngsters and in particular for those hard to reach. We conclude by making a call for further research to evaluate the effects of ICT in social work in order to inspire, nourish and innovate social work practice.

2 The Challenge of Accessibility

Welfare services in general and particularly those targeting vulnerable groups, face the constant challenge of making their services more accessible. Accessible and high quality welfare services are crucial in the battle against exclusion (Sels et al. 2009).

To define accessibility Bouverne De Bie (2005) describes 5 preconditions for a social service to be able to address the concrete problem situations their target group faces: usability, comprehensibility, reach-ability, availability and affordability. In social work practice 2 more are added during the past years: Publicity (visibility and recognisability), reliability (correctness and confidentiality) (Sels et al. 2009).

[1] The Youth Advice Centres are sections of Flanders' Autonomous Centres of General Welfare (CAWs). The 25 regional CAWs have in total 33 JACs and on average 100 youth workers.

[2] The helpline Tele-Onthaal was the first to start with a chat services in 2002

[3] We mean accessible to the target group in general, not in particular for the disabled.

To illustrate this challenge in the JACs we will make a small excursion into history and take a look at the emergence of 'youth' and later 'vulnerable youth' as target groups.

From the past…

During the 1960s and early 1970s, in a climate of social criticism and countercultural undercurrents in Western Europe, a newly emergent post war youth class felt a growing need for more freedom, independence and open communication about all aspects of life. The liberalization of sexuality, changing family relationships, growing youth unemployment, etc. brought about "new" questions, problems and needs. This new youth class perceived existing welfare services as patronizing, bureaucratic and inapt to meet their needs.

From the Netherlands and the U.K., experimental and alternative approaches found their way into Flanders. Out of a mix of social work, education and social action, Youth Information and Consultation Centres emerged. The first Youth Information Centre (JIC) in Flanders was set up in 1966 in Ghent, following research by Professor Willy Faché at Ghent University (see www.canonsociaalwerk.be, 1972) Soon information, advice and counselling became linked and in 1972 Youth Advice Centres (JAC) were set up in the cities of Antwerp, Leuven and Aalst. These "drop in" centres had long and flexible opening hours and were located in the city centres, nearby student and entertainment districts. Information and advice but also emergency accommodation in case of crisis were offered free of charge, in a non-committal way, and with respect for the youngsters rights. (see www.canonsociaalwerk.be, 1972)

Until that time "youth" as a target group was not yet defined. The JACs have had a strong influence on the development of Flemish youth welfare services ever since.

By the mid eighties a new wave of experimental approaches, such as Street Corner Work, were introduced as a critique to the inability of welfare institutions to reach rural and more vulnerable groups (see www.canonsociaalwerk.be, 1985). "Vulnerable Youth" as a new and challenging target group emerged and the JACs tried to find ways to reach this group. They started to broaden their focus and set up small antenna posts outside the city centres, in rural and remote areas.

Unlike the outgoing and in the field approach of Street Corner work, the JACs waited for youngsters to take the first step. According to the empowering JAC principles, youngsters as autonomous help seekers are able to address, define and solve their problems. Not all youngsters have the resources or skills to do so. Some youths did not seem to find their way to the JACs. And when they eventually got there, they often were in real big trouble. In addition to this JACs started to notice a general drop in registration figures. During the nineties the limitations this centre-oriented model became apparent. Not only vulnerable youngsters didn't find their way but the JACs seemed to be losing their appeal to the target group as a whole.

At the dawn of the 21st century, JACs found themselves on the threshold of the digital age. Youth workers were only just starting to use e-mail as youngsters began to use the JAC e-mail address to send requests for help. This was new and interesting but also unsettling at the same time. A lot of questions were raised and although youth workers were very wary about this new medium, they also saw opportunities. Could this new and contemporary gateway hold the key to facilitate inflow into the centres?

…to the present

The position of e-mail and chat in the JACs changed gradually over the years. At first e-mails were replied with a friendly invitation to visit the centre. It soon became clear that this was not how this new generation of youngsters expected it to work. Not only did they have to give up their online comfort zone, but they had chosen e-mail and later chat, text and social media as their means of communicating with the youth worker. Today, information, advice and support through e-mail and chat are becoming integrated methods to work with youngsters and JACs are exploring new horizons: the possibilities of social network sites and online outreach strategies.

3 ICT Strategies and Accessibility

The issues youngsters address through e-mail and chat are often sensitive and taboo related. Suicide and abuse related topics occur more often online then in face to face conversations (Mendonck 2009). Also the problem is addressed much quicker, more straight forward. E-mail and chat seem to have certain characteristics that make it possible to talk about things that are really difficult to speak out.

3.1 Characteristics of Chat and E-mail

The sense of anonymity is the most important motive for help seekers to use chat or e-mail. Being behind the computer screen, accessing social services through the internet creates a heightened sense of privacy, safety and comfort. Help seekers decide how much of themselves they disclose and they can remain unidentifiable if they choose to. The possibility of an easy escape and the fact that the social worker remains at a safe physical distance increases autonomy and control (Vlaeminck et al., 2009).

In relation to these characteristics chat and e-mail are able to help break taboos. Talking about certain issues can be very unsettling and painful. The fear of falling into an awkward silence or not finding the right words can prevent people from tackling their issues. Online, help seekers feel less embarrassed to discuss difficult

and sensitive issues such as suicide, self mutilation and abuse. This effect is termed 'disinhibition' (Vlaeminck et all., 2009a).

Free choice of time and place is another property that makes online services attractive (Vlaeminck et al., 2009a). Help seekers don't have to travel or make an appointment. An e-mail can be sent at any time and chat services are often available until late in the evening.

Although chat and e-mail are accessible media for a lot of Flemish youngsters, JACs are well aware of the fact that they might not be reaching the most vulnerable groups this way. First, JACs actually face the same issues as before: some youngsters, and often the most vulnerable ones, seldom take the first step in looking for help. This might also be the case if help is offered online. Second, some youngsters do not benefit from the positive effects of chat and e-mail, because they have limited resources to go online, or limited skills to conduct a conversation in written language. Third, to fully benefit from the opportunities of ICT, several structural and organisational issues need to be considered such as the investment of time, money and manpower to build up a high standard online service. Indeed, nothing is as inaccessible as a clogged chat room and so is having to wait more than 48 hours for an answer to your e-mail. This becomes clear if one considers the speed at which young people text each other. Having to wait for an answer equals not being heard or worse, being ignored.

From the help seeker's perspective, the first two issues relate to how they feel about existing welfare services. What are their needs and how do they prefer to be approached? If welfare services want to improve the accessibility of their services, they must first gain insight into the needs of the target group.

3.2 A Professional Friend: Youngsters' Perspective on Welfare Services

In 2006 CAW Hageland[4] published the results of a survey on how youths between 12 and 25, in the region of Hageland – Leuven feel about the services provided by the JACs (Vandenberk, 2006). Recently CAW Leuven participated in a similar survey conducted by RISO Vlaams Brabant[5] on experiences of young adults (18 to 25) with welfare services in general (Goussey, 2009).

Both surveys paid special attention to those youngsters care takers would describe as 'vulnerable'. The goal was to identify the needs of youths in the greater region of Leuven, urban as well as rural, in order to better align the services offered to that group. In relation to the accessibility parameters described earlier, the following interesting conclusions can be drawn.

[4] Supported by Xios University College in Hasselt

[5] Non-profit organisation that sets up community building initiatives in Vlaams Brabant

First, youth welfare services are not well known among youths and have a problem with their image. They need to invest time and money in promotion and gaining insight in how to communicate with youths. Not only using different strategies and different means of communication but also differentiation in language, frequency and location of the communication are important (Goussey 2009, Vandenberk 2006).

Second, youngsters are looking for the "person" behind the service (Vandenberk, 2006). That person is trustworthy, discrete, understanding, and willing to listen. He or she can give good advice in a non-committal, non-pushy way and stimulates the youngster to get into action. (Goussey 2009, Vandenberk 2006)

Third, youngsters seek help in their immediate surroundings. Service providers should be approachable in the youngsters own environment and be available after school hours and in the weekends (Goussey 2009, Vandenberk 2006)

Based on the outcome of the survey in 2006, CAW Hageland decided to change course in its three JACs. A youth participation project was started in 2007 to rethink the entire JAC concept together with the local youths.[6] This led to the development of a mascot and with it a new 'face': the moose called Mister JAC.

Today Mister JAC is omnipresent. Offline he is embodied by several youth workers who are approachable in the schools, on events, in the pubs and so on. Apart from e-mail, text message, and chat, Mister JAC is also on Netlog and has his own TV channel on YouTube[7]. Youths can still visit the centres if they want but opening hours are cut down dramatically. Youth workers now use their Netlog group page as a new front door.

Netlog is of course supposed to be fun, and that is one thing Mister JAC has understood really well. Youngsters are engaged in activities such as making YouTube movies, to participate in contests such as 'Dress Up Mister JAC' or games such as 'Find Mister JAC', where stickers are hidden all over the village. This gives the service a 'fun' aspect and helps to lessen the problem related image. Because of that youngsters do not necessarily have to have a "problem" to join the action and come into contact with youth workers.

In 2009 CAW Hageland studied a representative sample of school going youths in the region's secondary schools[8] in order to assess whether Mister JAC did have an effect on the accessibility of the JACs services. The results were positive. 70% of the youngsters recognised the mascot and 59% related Mister JAC to the JACs. In 2006, 51% of the youngsters had never heard of the JAC. In 2009 this figure dropped to

6 This project was set up in collaboration with In Petto (National Service for Youth Information, Participation and Prevention) and funded by the County of Vlaams-Brabant

7 http://www.youtube.com/user/MisterJacTv

8 The largest part of the population is represented by the lower educational levels

19%. Almost 70% of the youngsters knew where to find the youth workers and most youngsters preferred chat and e-mail over texting or visiting the centres. 17% knew they could find Mister JAC on Netlog. 80% of all respondents knew that JACs are free of charge and guarantee confidentiality (CAW Hageland, 2009).

This change gave a whole new dynamic to the JACs in the region. Because of the close involvement of local youths in the development process, the engagement of youth workers, the support of management and sufficient amounts of time and money, this integrated approach of offline and online strategies became a success.

Mister JAC inspired JACs all over the country to rethink their outdated drop-in centres. Based on the experiences of JAC Hageland, JAC Ghent developed 'Ask Peggy'. Following Peggy, in 2009 CAW De Kempen gave birth to 'Elise', Peggy's younger and slightly cheekier sister. Mister JAC, Peggy and Elise show how ICT is integrated into a JAC service and makes the service more accessible.

4 Conclusion

Changing contexts create changing needs and expectations. Young people in Flanders spend considerable amounts of their time online and an increasing number of welfare services are exploring the opportunities of social media towards their target groups. This leads to a multitude of experiments and initiatives on community sites, chat sites and social network sites, some more successful than others.

Throughout this paper we have highlighted the important challenge of accessibility that welfare services face and we have illustrated some of the positive effects seen by integrating ICT strategies to improve accessibility of the JACs. We did not aim to be exhaustive, nor to describe best or good practices. What we did set out for in this paper was to describe the inspiring evolutions in Flanders leading youth welfare organisations.

The statement that ICT strategies can lower the barrier to the caretaker is partly supported by literature on the features of chat and e-mail, registration figures and practice examples of how social media can complement a service. The limited amount of evaluation data supplied by experiments in the field point out that chat, e-mail and social media, if used in an integrated and well considered way, can certainly offer opportunities towards vulnerable groups.

But what really works, for whom, and on what conditions?

Concerning the facilitation or enhancement of social work practice with ICT strategies, evaluation methods are not commonly used. Nevertheless welfare services would really benefit from thoroughly evaluating ICT strategies and share the results

of projects and experiments with each other. And indeed, even if the outcome of a project is not what was hoped for, important lessons can be learned if we dare to ask questions.

Further concrete research to evaluate the benefits of ICT and social media in social work is needed to inspire and nourish social work practice. In this regard we would like to point out to a framework that has recently been developed by Jan Steyaert (2010) to assess the effect of ICT initiatives on inclusion of youth at risk. Steyaert matches the "effect ladder" that is used in evidence based research with another quality parameter being "effect size" and thus suggests a five stage continuum (-1 to +3) along which social interventions can be placed.

Applied to the issue of accessibility the framework could give insight in the effect of ICT strategies on accessibility of welfare services towards vulnerable groups. At -1 we would then find interventions that have a negative result on accessibility. 0 is the neutral level where interventions have no impact on accessibility, and +3 would be the level on which we would situate interventions that promote access specifically for the intended (vulnerable) target group.

In today's world of ever faster innovations in the field of ICT and social media in particular, social work organisations need a new breed of tools to better define and compare those ICT strategies that were successful and those that were not. If properly tried, tested and widely adopted, we believe that an evaluation framework like Steyaert's could enable social work organisations to face this rapidly changing brave new world more confidently.

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Using technologies to support young people at risk of learning exclusion: considering key factors when identifying impacts

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Abstract. Young people are at risk of exclusion, for different reasons, and at different times in their lives. Exclusion might include social, physical, emotional, or cognitive forms of exclusion. This paper will focus on one aspect of exclusion - learning exclusion - in the context of the others. A more detailed discussion of factors that can lead to or influence learning exclusion in the context of the educational system in England is offered in another paper in this volume (Passey [1]). This paper focuses on implications for researching impact when technologies are used to support young people who are at risk of learning exclusion.

Keywords: learning exclusion; researching learning exclusion; factors impacting learning exclusion; learning exclusion research approaches; learning exclusion research framework.

1 Introduction

Learning opportunities and outcomes in school-based contexts seek to provide individuals with heightened levels of awareness and abilities so that they can move on to access training and employment. In considering an exclusion of young people to those early learning opportunities and outcomes, however, it is clear that learning exclusion is not synonymous with school exclusion (see Passey [1]), and while factors of both can influence individuals in terms of their future potential, the differences between them and the links between them need to be considered, if the system that supports young people is to identify successfully those at risk, to prevent them from moving to at risk situations, and to support them when at risk. In this paper, features of those at risk of learning exclusion will be identified, using factors that are identified and discussed from a range of sources (Child [2]; Dweck [3]; Bransford, Brown and Cocking [4]; Eccles and Wigfield [5]; Becta [6]; Passey and Rogers [7]; Passey, Williams and Rogers [8]; DCSF [9]). In this paper, and the accompanying paper in this volume (Passey [1]), factors concerned with learning exclusion have been categorized as physical (motor access, physical access, visual, and hearing impairment, absenteeism, exclusions from school, being in prison, hospitalized, home-tutored, in motherhood, involved in family care, or homeless), cognitive (cognitive difficulties, dyslexia, dyscalculia, Asperger's syndrome, autism, or Down's syndrome), social

(social deprivation arising from home and community, marginalization, language barriers, ethnic and cultural barriers, criminal activity, drug and alcohol abuse, or low social or communicative engagement), emotional (shyness, withdrawal, distraction, electing to be or being mute, or mental illness), behavioral (disruption, aggression, Tourette's syndrome, physical assault, abuse or bullying, or sexual misconduct), geographic (isolation, rural location, or limited travel choice), attitudinal (dissatisfaction, disenfranchisement, disengagement, or low literacy engagement), or opportunity (physical access, width of awareness, or timeliness) related.

2 Describing the factors and how they impact

Each factor that puts young people at risk of learning exclusion does so in potentially different ways. In Table 1 each factor listed above is described in terms of how it potentially impacts the individual (rather than others around the individual, who might be involved in supporting or merely interacting with the individual) in social, emotional and cognitive ways. This is done using broad descriptors – low impact (it does not prevent or lead to limitation often), medium impact (it can prevent interaction or can sometimes lead to limitation), high impact (it is likely to prevent or lead to limited interaction without intervention), or variable (it could have impact at any of these levels). These descriptors have been assigned using details from sources listed and from teacher reports gathered by the author. It should be noted that although these impacts are identified from the perspective of the individual, that it is also recognized that impacts on others around the individual could then impact back on the individual; the factors involved are then quite nested, but the impacts arising may not be directly consequential on the originating factor itself. Table 1 attempts to show levels of impacts on the individual that arise from originating factors, rather than impacts arising from other subsequent interactions.

Table 1. How originating factors can potentially impact the individual in social, emotional and cognitive ways.

Category	Factor	Social impact	Emotional impact	Cognitive impact
Physical	Motor access	Low	Medium to high	Variable, but often high
	Physical access	Variable	Variable	Low
	Visual impairment	Low to medium	Variable	Variable
	Hearing impairment	Medium to high	Medium to high	Variable, but often medium to high
	Absenteeism	Medium	Low to medium, but impacts on others can cause this level to rise	Variable
	Exclusions from school	Medium to high	Variable	Variable

	In prison	Medium to high	Variable, but generally medium to high	Variable
	Hospitalized	Variable	Variable, but often medium to high	Variable
	Home tutored	Variable	Variable	Not clear, but reports from young people suggest it is often low
	In motherhood	Variable, but often low	Variable	Variable
	Involved in family care	Variable, but often medium to high	Variable, but often high	Often medium to high
	Homeless	Medium to high	Often high	Often high
Cognitive	Cognitive deficiencies	Often low	Variable, but can be medium to high	High
	Dyslexia	Often low	Often medium to high	Medium to high
	Dyscalculia	Often low	Often medium to high	Medium to high
	Asperger's syndrome	Often high	Variable	Often medium
	Autism	Often high	Variable	Often medium
	Down's syndrome	Often low	Variable	Can be high
Social	Social deprivation	High	Variable	Variable
	Marginalization	High	High	Can be high
	Language barriers	High	Can be high	Can be high
	Ethnic and cultural barriers	High	Can be high	Variable
	Criminal activity	High	Variable	Variable
	Drug and alcohol abuse	Variable, but can be high	Variable	Variable, but often medium to high
	Low social or communicative engagement	Variable, but can be medium to high	Often medium to high	Variable, but often medium
Emotional	Shyness	Medium to high	Medium to high	Medium to high
	Withdrawal	Medium to high	Variable	Variable, but often medium to high
	Distraction	Variable, often low to medium	Low to medium	Variable, but often medium

	Elective mutes	High	Variable, but often medium	Can be high
	Mental illness	Often medium to high	High	Often high
Behavioral	Disruption	Medium to high	Medium to high	Often medium to high
	Aggression	High	Medium to high	Often medium to high
	Tourette's syndrome	High	Medium	Often medium to high
	Physical assault	Variable, but often high	Variable	Variable
	Abuse or bullying	Variable	Variable	Variable
	Sexual misconduct	Variable	Variable	Often low
Geographic	Isolation	Medium to high	Variable	Variable
	Rural location	Variable	Variable	Variable
	Limited travel choice	Medium	Often low	Variable, but often medium
Attitudinal	Dissatisfaction	Variable, but often low	Medium	Medium
	Disenfranchisement	Medium	Medium to high	Medium to high
	Disengagement	High	Variable, but often high	Variable, but often high
	Low levels of literacy engagement	Variable, but often low	Variable, but often medium to high	High
Opportunity	Physical access	Low	Variable, but often low	Variable, but can be medium to high
	Width of awareness	Low	Low	High
	Timeliness	Low	Variable, but often low	High

The reason for considering different forms and levels of impact on the individual for each of these different factors is to show that different factors have different levels of impact in different ways. Support for an individual at risk is targeted to focus, therefore, on these different elements to different extents. So, for example, it is appropriate for support to focus on cognitive impacts if the factors putting the young person at risk are motor access limitations or the need to respond to timeliness, whereas it is appropriate for support to focus on social impacts if the factors are concerned with social deprivation or aggression.

3 Using technologies and implications for researching impact

Using technology to effectively support young people at risk of learning exclusion needs to be aligned according to the specific focus of factors that lead to that risk. So, uses of technologies need to be aligned to social, emotional or cognitive impacts in specific circumstances. Some technologies clearly focus on specific impact areas. For example, the use of laptops to support young people with motor access difficulties is focusing on the cognitive arena (see Becta [6]), although in addressing this focal need, impacts associated with the emotional and social arenas could also arise. Similarly, uses of technologies such as interactive whiteboards to impact on distraction (see Hall and Higgins [10]), or role play simulations to impact on criminal behavior (see Cullen [11]), or mobile technologies to impact on disengagement (see Attewell [12]), all focus on a specific arena (social, emotional, or cognitive), more than they do on the others. From an impact study perspective, therefore, impacts that are intended, for example within a cognitive arena concerned with motor access, should be a clear research focus. Similarly, the use of technology-based role play and simulations to support young people with aggressive difficulties is focusing on the social arena, and impacts in this arena should clearly be the focus of any research impact study.

4 The roles of mediators and supporters with the technology

A key factor to consider when thinking about researching impacts of uses of technologies is the fact that the environment in which these technologies is used usually goes beyond the realm of the individual young person, since mediators or supporters are often involved. This introduces a further dimension when researching impact, since the role of the mediators or supporters can influence impact on the individual (negatively, neutrally or positively). For example, a young person using a laptop to aid motor difficulties is likely to be able to gain more if a mediator working with them is not only positive about the use of the laptop, but also knows how the laptop might be applied to the individual's circumstances and needs. Impact here, therefore, is a measure not just of the technology itself, or of the way that the individual applies that technology, but also of the influence of knowledge and attitude of the mediator or supporter. Impact measures need, therefore, to accommodate the impact influence of mediators and supporters as well as the technologies themselves.

Taking the possible influence of mediators or supporters further, the impact of longer-term potential as well as shorter-term concerns can be important in terms of their focus and outcome for the individual. Learning exclusion can be a feature of the short term, but it can also be a long term feature. The longer the period of the exclusion, the more likely it is that there will be a need to involve the individual in a series of steps of engagement that will allow the individual to see value in initial and then longer-term engagement and outcome, moving from the shorter term to the longer term (see Miller and Brickman [13], for example). The role of technologies in helping a young person to engage in features that address exclusion in the short term is often clear, but its role, coupled with the role of mediators or supporters in engaging for the longer term also needs to be considered when researching impact. Again, the

knowledge and attitudes of mediators and supporters in this respect are likely to influence impact outcomes, and these need to be accommodated within any research design that seeks to look at impact.

5 Factors and their impacts on learning exclusion over time

Teachers and support workers recognize that some young people are at risk of, or are, being excluded in certain ways from learning, education, training or employment from quite young ages. These effects are seen over a wide age range, from some 9 to 19 years of age or more. As a young person moves through these time periods, associated with engaging in classroom-based, school-based, training-based, and then employment-based learning, certain factors that might impact to the point of creating exclusion from learning persist across that entire time period. But in other cases, factors arise at different points across the time period – although there is a tendency for more factors to become influential as the young person progresses towards and into employment. This accumulation and shift in factors is illustrated in Figure 1.

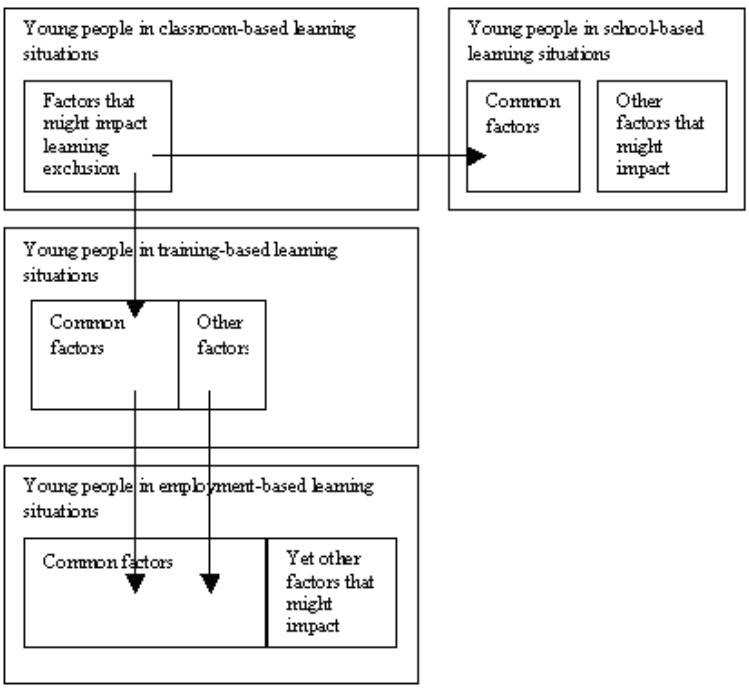

Fig. 1. Patterns of potential impact influencing learning exclusion for young people.

6 Researching impact of technologies on learning exclusion

Picking up key points from the discussions above, there are four different areas that need to be considered when researching impact of uses of technologies in at risk situations with young people. These four areas are: impact arising when technology use is focused on either social, emotional or cognitive arenas; impact arising when the focus of intervention is on short-term needs; impact when it is on long-term needs; and impact arising from mediator or supporter influences. It is clear that different factors that lead to at risk situations need to be considered separately in this respect, especially since technologies used to influence or address these factors are usually focused in specific, and different, ways. Table 2 provides an overview of research factors to consider within each of these four areas when supportive technologies are used to support or to help to address each of the specific factors that can lead to learning exclusion. It should be noted that a specific technology has been stated in each case, to provide an exemplar. For any technology intervention, a specific identification of impact factors is needed, to ensure alignment of focus and impact outcomes.

Table 2. Factors to consider when researching impact of technologies on learning exclusion.

Category of factor	Specific factor	Technologies involved	Impact in social, emotional or cognitive arenas	Impact on short-term needs	Impact on long-term needs	Impact arising from mediator or supporter influence
Physical	Motor access	Motor access aids	E, C	√		√
	Physical access	Physical access aids	C	√		
	Visual deficiencies	Visual support aids	C	√		√
	Hearing deficiencies	Hearing support aids	S, E, C	√		√
	Absenteeism	Mobile alerts	E	√		
	Exclusions from school	Home computers	C	√	√	√
Cognitive	Cognitive difficulties	Cognitive aids	C	√		√
	Dyslexia	School and home laptops	E, C	√		√
	Dyscalculia	School and home graphical calculators	E, C	√		√
	Asperger's syndrome	School and home mobile devices	E, C	√		√

	Autism	School and home mobile devices	E, C	√		√
	Down's syndrome	Virtual learning environment	S, E, C	√	√	√
Social	Social deprivation	Virtual learning environment	S, E, C	√	√	√
	Marginalization	Virtual learning environment	S, E, C	√	√	√
	Criminal activity	Role play simulations	E	√		√
	Drug and alcohol abuse	Role play simulations	E, C	√		√
	Low social or communicative engagement	Virtual learning environment	S, E, C	√	√	√
Emotional	Shyness	Virtual learning environment	S, E	√		√
	Withdrawal	Virtual learning environment	S, E	√	√	√
	Distraction	Interactive whiteboards	E, C	√		√
	Elective mutes	School and home mobile devices	S, E, C	√		√
	Mental illness	Virtual learning environment	S, E	√		√
Behavioral	Disruption	Role play simulations	S, E	√		√
	Aggression	Role play simulations	S, E	√		√
	Tourette's syndrome	Virtual learning environment	S, E, C	√		√
	Physical assault	Role play simulations	S, E	√		√
	Abuse or bullying	Role play simulations	S, E	√		√
	Sexual misconduct	Role play simulations	S, E	√		√

Geographic	Isolation	School and home mobile devices	S, E, C	√	√	√
	Rural location	Virtual learning environment	S, E, C	√		√
	Limited travel choice	Virtual learning environment	S, E	√		√
Attitudinal	Dissatisfaction	Virtual learning environment	E, C	√		√
	Disenfranchisement	Virtual learning environment	S, E, C	√		√
	Disengagement	Virtual learning environment	S, E, C	√		√
	Low levels of literacy engagement	Virtual learning environment	E, C	√		√
Opportunity	Physical access	Mobile alerts	C	√		√
	Width of awareness	Virtual learning environment	C	√	√	√
	Timeliness	Mobile alerts	C	√		√

7 Conclusions

Learning exclusion can arise in a number of different ways. The different factors that influence learning exclusion may impact the individual in ways that might be social, emotional or cognitive. If technologies are used to support individuals in addressing learning exclusion, then they are likely to be focused on one or more of these areas of impact. Researching impact outcomes clearly needs to consider these focal aims, but should also consider that whilst a technology may be supporting an individual, it is also likely to be supported through other actors, notably mediators or supporters. Their influence, in terms of attitude as well as knowledge and application about uses of technologies, also need to be accommodated within research designs that seek to identify impact outcomes. While the action of some exclusion factors and the focus of some mediators and supporters might be on short-term impact outcomes, others may need to be much more long-term focused, especially when exclusion factors have been embedded for substantial periods of time. Accommodating this and other dimensions suggests that attempting to provide a single research design to identify impact outcomes for any or all of a wide range of interventions to address exclusion factors is highly unlikely to be entirely useful or fully successful. Contexts of individual support

projects, their individual focus, and longevity, will all play roles in determining outcomes that are measurable or non-measurable in fundamental ways. Whilst the endeavor of identifying impact outcomes is not only laudable, but also necessary, if others are to gain from the experiences of those undertaking different interventions, it is important to recognize that the worthiness of an individual intervention approach within an individual context is likely to be a key driver in terms of focusing the usefulness and width of impact outcomes in terms of applicability to other contexts and cases. The form of analysis offered in Table 2 seeks to provide a framework not only through which approach and design of research impact might be considered, but also through which application of research outcomes to other situations might be viewed appropriately (for example, a study that measures impact outcomes of a socially-based intervention addressing issues of isolation might not be applicable in its entirety to a cognitively-based intervention, but might be able to adapt and integrate elements or aspects successfully). This framework, offered at an early stage of development, seeks to offer a means to introduce, discuss and consider fundamental issues concerned with measuring impact when technology-based interventions are contemplated both in terms of research and project implementation.

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Where the worlds of e-inclusion and evidence based practice meet

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Abstract. Within the context of the information society, access to computers and the internet has been considered to be a new faultline in social exclusion. This has resulted in numerous initiatives on e-inclusion. There is however a second development, that of evidence-based practice, the approach that wants results of effectiveness studies to be an important inspiration for practice. Where these developments intersect, we find the issue of whether e-inclusion interventions are effective, of whether they reach their aim. It is common to label projects as 'good practice', but do we have an assessment framework to justify using labels such as 'good' or 'best'? Does providing excluded citizens with access to computers and internet indeed help them to become socially included? And can we distinguish different types of initiatives and assess them according to their effectiveness?

Keywords: e-inclusion, evidence based practice, best practices

1 Introduction

A survey for the BBC early in 2010 showed that across the world 79 per cent of adults considered internet access to be 'a human right'. The secretary-general of the International Telecommunication Union (ITU) commented that "The right to communicate cannot be ignored. The internet is the most powerful potential source of enlightenment ever created. Governments must regard the internet as basic infrastructure - just like roads, waste and water".

The advances of information technology and the equally fast moving developments of communication technology resulted in society's housing infrastructure not only being served by a network of water, gas and electricity supply, but also by a similar network of information supply. "The 'information grid' is seen as analogous to the electrical supply. As the electricity grid links every home, office, factory and shop to provide energy, so the information grid offers information wherever it is needed. This is, of course, an evolutionary process, but with the spread of ISDN we have the foundational elements of an 'information society'" (Webster, 1995, p. 7). Of course, since those thoughts were published we have seen the emergence and diffusion of always-on (ADSL and the like) and wireless connections, so that today's reality far surpasses yesterday's dreams.

Within this context, it should not come as a surprise that access to computers and the internet have been considered to be a new faultline in social exclusion: those who don't have access are the information have-nots, the informational excluded part of the population (Steyaert & Gould, 2009). The reverse of this perspective is that providing socially excluded citizens with computers and internet access helps them to overcome their social exclusion. Examples include the UK's March 2010 *national plan for digital participation*, aiming to reduce the 12.5 million citizens currently not online to 5 million. The aim is "to ensure that everyone who wants to be online can get online, do more online and benefit from the advantages of being online." Most Western countries have seen numerous similar policy initiatives over the past decade, all aiming to bring more citizens online, to avoid a digital divide.

New media become not only a technological innovation but also a social medicine, the healing powers of which are comparable to the effects and popularity once associated with Prozac or Viagra. The power of technological progress has led many to believe and/or hope that this energy could be channelled so as to invoke social progress. This hope is only the latest in a long history of technology based utopias[1], of which Francis Bacon's *New Atlantis* was probably the first one (Bacon, 2010 (original 1626)). One could argue that Howard Rheingold's *virtual community* is the first utopia of the current wave of new media (Rheingold, 1993).

There is however a second development, that of evidence-based practice, the approach that wants results of effectiveness studies to be an important inspiration for practice. Doing something with good intentions and hard work is no guarantee that the hoped for results are achieved. Actions and professional interventions can have surprisingly perverse effects. Numerous examples exist where results were significantly different from the original goals.

The evidence based practice movement emerged in medicine soon after World War II and has since changed that profession profoundly, and to our great benefit!! The use of random controlled trials (RCT's) and meta-reviews has greatly enhanced the knowledge base of the medical profession. Given this success it is no surprise that over the past decades, evidence-based practice started oozing into other professions such as nursing, physiotherapy, psychiatry, social work and social policy. Within social work, doubt about the effects of social interventions was explicitly voiced by Joel Fischer in 1973 with a number of articles with telling titles such as *Is casework effective?* or *Does anything work?* Fischer can rightly be described as 'the father of professional doubt' (see www.historyofsocialwork.org). Many have followed in his footsteps and evidence based practice is now a core element of social work's agenda.

At the intersection of these developments lies the issue of whether e-inclusion interventions are effective, of whether they reach their aim. It is common to label projects as 'good practice', but do we have an assessment framework to justify using labels such as 'good'? Does providing excluded citizens with access to computers and

[1] Although there often is, there need not be a negative connotation to the term *utopia*. It can refer equally to a hopelessly naive dream about what the future will or should look like, as to a dream that provides the seeds for progress: a dream that articulates the unachievable in order to accomplish the achievable.

the internet indeed help them to become socially included? And can we distinguish different types of initiative and assess them according to their effectiveness?

Not that we don't want new media to be helpful in fighting social exclusion! It is clear that over the past three decades, social exclusion has increased. The welfare state, as it emerged after the Second World War, was good at providing a caring infrastructure and reducing social inequality during the fifties and sixties. From the eighties onwards, social inequality increased again. This can be seen from statistics on income inequalities and the long term development of the Gini coefficient (Wilkinson & Pickett, 2009). But it can also be seen from differential life expectancy. Although we all tend to live longer than our ancestors, well-off citizens live on average three years longer than their poor neighbours. When it comes to the number of years lived in good health, rather than absolute number of years lived, the difference goes out to twelve years. It is a matter of concern that since inequality in health was identified by the Black report in the UK in 1980, and despite numerous health policies designed to decrease these differences, they actually have increased rather than decreased within Western countries.

So the need to reduce social inequality is obvious, and if new technology can help to do so, it is very much to be welcomed. We first however need to answer the question of effectiveness, given the 'professional doubt' that evidence based practice rightly introduced. And that implies constructing an assessment framework for e-inclusion initiatives. We propose to do so by using a number of building blocks.

2 Building blocks for an assessment framework

The first building block is *access*. If people don't have access to computers and internet, all subsequent issues become irrelevant. One important observation here is that while initial surveys on the digital divide showed about seven faultlines (education, income, gender, city/rural ...), these seem to have collapsed to one dominant faultline (age). The older somebody is, the less likely it is that they have access to and make use of new technology. This is likely to imply that initiatives focusing on increased access are mostly relevant for age groups 75 and over.

Closely related to access is the need for skills. Although there have been significant improvements in user-friendliness and reliability of software, using computers and the internet still calls for a robust set of digital skills. These are not a given but need to be acquired. Within the context of Western societies with high levels of internet availability, differences in skills become more important: "Differences in digital skills lie at the heart of social inequality in advanced knowledge societies. The Internet access 'markets' in these societies are close to reaching saturation point, giving almost everyone access to the Net. By contrast, differences in digital skills appear to be widening over time." (de Haan, 2010).

The second building block for an assessment framework is what access to computers and the internet is used for, the *content preferences* of users. While at the time of the advent of the information society the new applications were predominantly work-

related, technology is now much more multi-purpose and strong on entertainment and leisure. HP advertises their laptops as 'entertainment centres'.
There are some indications that content preferences of users are a strong mediating variable in the effect of new media on social exclusion. A UK study on the effects of home internet access on school results indicated there was a positive correlation between both. But only for girls. Boys used their internet access predominantly for leisure purposes, and didn't achieve better school results: "There was a statistically significant positive association between pupils' use of ICT out of school for leisure purposes and decreases in attainment. This effect was over twice as large an effect as the positive association of using ICT for educational purposes. In other words, it is not access or general use of ICT per se that could raise attainment, but rather how the technology is used that matters" (Valentine, Marsh, & Pattie, 2005).

The third building block for an assessment framework is a lesson from Sesame Street: *differential consequences* of usage. Over the past decades, few children have grown up without seeing Sesame Street. The former popularity of this children's TV-program makes it easy to forget that it was initially developed as a social intervention to reduce social exclusion by enhancing literacy and numeracy: it had a curriculum. And although most research indicates the latter goal was reached, some suggest that the main goal of reducing social exclusion has not been attained. Sesame Street would enhance the literacy and numeracy of children of well-off households more than that of children in poor households, and consequently contribute to more social exclusion (Cook, et al., 1975).
This phenomenon is known as the Matthew effect and can be seen in different areas of social policy. Work from Jo Blanden in the UK on social mobility strongly indicated the democratization of higher education during the last decades of the 20th century has had a similar effect: more students participated in higher education but on average they came from better-off households (Blanden & Machin, 2004). As a consequence, social exclusion (in relative terms) increased and social mobility decreased: these were precisely the effects the democratization of higher education sought to overcome.

3 The "effectiveness ladder"

These three building blocks for an assessment framework are more specific to social inequality and e-inclusion initiatives. They need to be matched with the more general framework of evidence based practice, as developed within medical care but later expanded to other caring professions. As an assessment framework, evidence based practice is very democratic in the sense that it provides room for every intervention to prove its effectiveness, even if the underlying theoretical assumptions are contested. However, that same approach of evidence based practice is very undemocratic when it comes to the ways in which effectiveness can be demonstrated. Not every claim about what works and what doesn't work is treated equally. The methodology used to support such claim is severely scrutinized and appraised. The central concept to do so is the so-called *effectiveness ladder*. Although it is available in many varieties, the

core idea is common to all. The effectiveness ladder classifies and orders methodologies according to their strength and trustworthiness. Each higher level implies a more elaborate and rigorous methodology, resulting in increased strength of the claims made.

The *first level* on this effectiveness ladder consists of expert opinions, descriptive studies or case studies. These can contain rich information, but can also be very subjective. Another expert or another researcher looking at the same case could draw very different conclusions. The claims made on the basis of only this kind of study are therefore weak.

It is not common, but one could introduce a *zero level* on the effectiveness ladder to highlight that the first level has some advantages compared to other evidence. This zero level would consist of highly subjective marketing information about some specific intervention. Although within the social sector very few people make money out of marketing social interventions, there is a lot of marketing, a lot of spreading good news about how things are done. The aim is probably more to gain recognition and fame and spread enthusiasm about a certain approach more than for financial gain. Also, a lot of the generally available information is aimed at funders and is part of accounting for project funding. As such information is mostly generated and made available by those having a strong interest in the social intervention (or by people paid by them, e.g. freelance journalists producing flashy leaflets), the claims based on this type of information should be treated with caution.

One step higher on the *second level* of the effectiveness ladder are the cohort studies and non-experimental studies. They allow us to identify correlations, e.g. wherever we see high levels of access to the internet we see higher school results. Given such information, one might develop a policy to increase internet access for school children. However, a correlation is far from proof of causality and basically says nothing about a possible relation of that causality. As can be seen in the example given earlier, it is not high levels of internet access that have an impact but what one does with the new opportunities.

The evidence gets stronger on the *third level* of the effectiveness ladder where we encounter experimental studies. In these, the desired outcomes can be measured in groups, some of which have been subject to the social intervention whose effectiveness we wish to assess, and some have not been subject to such intervention.

The holy grail of evidence based practice, the strongest available methodology to demonstrate effectiveness of an intervention, are the random controlled trials (RCT's) and forms the *fourth level* of the effectiveness ladder. A sample of the target population is randomly assigned to either receive the intervention or have some other kind of treatment or placebo. When possible, the setting is 'double blind' so that neither the participants nor the professionals know which person belongs in the experimental group and which in the control group. Resulting differences can strongly be attributed to the intervention, hence demonstrating its effectiveness (or lack thereof).

There is some discussion as to whether the strength of claims based on random controlled trials can be increased by combining the results of a series of such effectiveness studies through *systematic reviews* (Littell, Corcoran, & Pillai, 2008).

On the one hand, this results in stronger evidence as it combines the power of the underlying individual studies. The disadvantage however is that all of these can have used slightly different methodologies, slightly different interventions, slightly different questionnaires, making it difficult to combine their results objectively into one systematic review.

The approach of evidence based practice started off in medicine but has now expanded to other caring professions, including social work and social policy. Results from effectiveness studies are assembled by initiatives such as the Cochrane collaboration (health care) or the Campbell collaboration (education, crime and justice, and social welfare). Additional to these international initiatives, many countries have their own national clearinghouse for evidence based practice. These include the Research Register for Social Care at SCIE (Social Care Institute for Excellence, UK) and the database 'effectieve interventies' at MOVISIE (the Netherlands).

4 The nearsightedness of evidence based practice

The effectiveness ladder as commonly used within the evidence based practice approach is an essential component of any assessment framework, and very useful in assessing e-inclusion initiatives. It allows us to move beyond the all-too-easy democratic labelling of every project as 'good practice'. However, there is also the danger of becoming entrapped in nearsightedness, as demonstrated by several evidence based practice initiatives. The nearsightedness results from a very strong focus on the quality of the research methodology and positioning (effectiveness research on) interventions on the effectiveness ladder while paying no or far less attention to other quality parameters.

One such parameter is the *effect size*. Imagine two social interventions being used to address a specific problematic situation (say vulnerable young people not having access to and not using the internet). Both might be the subject of effectiveness research, resulting in e.g. intervention A being described as a case study, and intervention B being subject to a random controlled trial. A nearsighted application of evidence based practice might result in intervention B being favoured above intervention A, as it has been subject to much more rigorous research. But how about effect size? Intervention B might have a stronger evidence base, but also a much smaller effect than intervention A.

It is consequently necessary to not only use an effectiveness ladder, but expand any assessment framework with a second dimension on effect size. There are some statistical measures to quantify effect, such as Cohen's d which can vary between -2 (strong negative effect) and +2 (strong positive effect).

Given the numerous complications with measurement outcomes of social interventions and going back to the remarks made earlier in this paper, we could also look for an ordinal effect size variable rather than interval variables such as Cohen's d. This would take the form of a continuum along which different social interventions can be placed. The continuum has five 'positions':

- -1: technology applications and initiatives that are detrimental for social inclusion, resulting in increased exclusion
- 0: technology applications and initiatives that are neutral towards social exclusion, having no effect
- +1: technology applications and initiatives that are good for social exclusion, that result in social gains for everybody.
- +2: technology applications and initiatives that are good for social exclusion, that result in social gains for everybody and very strong gains for those at the bottom of the social ladder.
- +3: technology applications and initiatives that have people at the bottom of the social ladder as their exclusive target group.

Technology applications/initiatives in category -1 to +2 are mainstream and could be based on what you can buy at MediaMarkt or PCWorld. Those in category +3 are not mainstream but 'niche market' and consequently call for plenty of resources (e.g. a website for a specific group but relying on a community worker being involved).
One could argue that applications/initiatives of category +2 are 'the holy grail' when it comes to using technology to decrease social exclusion.

Different applications and initiatives can be positioned along this continuum. Where, for example, would facebook.com be? Would spending time on it expanding your virtual social network and sharing information with 'friends' help to combat social exclusion, or would the time displacement associated with it reduce your chances on the labour market? After all, an hour spent on facebook is an hour not used for other activities. But then, do you position facebook.com as a general application within this assessment framework, or specific usages of facebook.com? It's easy to see it makes a difference whether you use facebook to maintain social networks or whether it's a platform for idle chat and farm maintenance (how many friends do you see on facebook playing Farmville?).
The same questions apply to less general applications of new media such as targeted initiatives in the area of e-inclusion. There are numerous initiatives in this area. The ongoing SHARE-IT European project provides an example. In this initiative, the Polish organisation *U Siemachy* (see www.siemacha.org.pl) and the Romanian organisation *DGASPC Timis* (see www.dgaspctm.ro) are trying to use new technology to address the problems faced by euro-orphans. Because many Polish and Romanian people work elsewhere in the European Union, their children grow up without much contact with their parents. This and similar initiatives are exploring e-inclusion opportunities. For them to move beyond the experimental stage, a proper assessment is a necessary condition.

Effect size is just one quality parameter that is often not taken into account when evaluating effectiveness research, thus resulting in nearsightedness. Another parameter seldom explored is costs. Imagine the same two social interventions being used to address a specific problematic situation (again vulnerable young people not having access to and not using the internet). Both might be the subject of effectiveness research, resulting in e.g. intervention A being positioned higher on the effectiveness ladder and having a higher effect size than intervention B. But what if intervention A

costs ten times more to apply than intervention B? Maybe despite intervention B being weaker in evidence and effect, it is still wise to invest public funds in it because it is so much cheaper and can be organised ten times more than intervention A within the same available budget. So any assessment framework must also include data on the costs and replicability of interventions.

5 Conclusion

We did not aim to build an overall and comprehensive assessment framework for e-inclusion initiatives in this paper. Rather we wished to problematise the overly democratic descriptions often given to such initiatives. The abundant application of the label 'good practice' without much underlying effectiveness research is a strong indicator for this situation. It is strange to observe that most e-inclusion initiatives have not been evaluated beyond a project description to satisfy the funder's information needs. As a consequence, the absence of evaluation data implies little assessment of quality of e-inclusion initiatives is possible, whether in the assessment framework described in this paper or another one.

Many of the ideas in Bacon's technology utopia have become reality. Bacon's utopia overall became a realised utopia (Achterhuis, 1998). For the utopia of e-inclusion to become a realised utopia, a higher level of scrutinizing initiatives in terms of effectiveness is needed. If so many are 'fellow travellers' in technology based utopias and believe technology based projects can help in addressing current social problems, there is an urgent need to start evaluating the myriad of initiatives and learn about what works when and for whom.

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EW32 - Drøme Methodology

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Abstract. By means of the DRøME participation methodology (collaborative methods, templates, games and 'crowdsourcing' processes) the gamers plunge into the scenarios of existence. In LearningLabs, they learn to express their views on 'serious' topics in the proper manner. They learn to share their opinions and feelings with young people from all strata of society. They incite each other to participation. They give sense to each other.

Keywords: Serious Urban Gaming - Serious storytelling - Participation

1. About EW32

Mission
[EW32] is a non-profit association which helps young people to create, to experience and to share "serious" games and stories on social, society-related themes.

Strategy
[EW32] incites young people to ways of participation through which they learn to develop sense, reason and perspective: we work with themes, forms and contents linked to the everyday world of the young of today and of tomorrow. We use to a maximum technologies and methodologies from the open information-, communication- and knowhow society ('21st century literacy')

Aims
[EW32] teaches young people by means of role play forms to come to an open dialogue on the social, society-related challenges of the 21st century. In workshops (called LearningLabs and GameLabs) our 'gamers' identify and realize themselves; they participate; create and re-create; they experience(game/play) and share.

Method
By means of the DRøME participation methodology (collaborative methods, templates, games and 'crowdsourcing' processes) the gamers plunge into the scenarios of existence. They learn to express their views on 'serious' topics in the proper manner. They learn to share their opinions and feelings with young people from all strata of society. They incite each other to participation. They give sense to each other.

Results
[EW32] follows the results meticulously – It analyses and reports its findings (by means of Active Research) on the everyday world of youngsters to the policy makers and to related (intermediary) organisations.

2. Learning Labs

2.1 Introduction

On 2nd and 9th June 2009 EW32 organised a LearningLab for pupils of the Centre for Part time Vocational training in Ghent, CLW.

We want to know if through our approach (drøme methodology) we come closer to the world of the young.

Via our "Drøme Learning Labs" the young people plunge into scenarios of the topic we dealt with, namely 'Young people and debts'. They learn in an apt way to express their vision on the topic. They learn to share their opinions and feelings with fellow pupils. They incite each other to active participation and exchange of information.

In our "DRøME methodology" they take up several characters and roles in the scenario. In this way they generate insights in, for and about each other. Their experiences and results are registered by themselves on our Drøme website and shared via relevant social networks.

Number of pupils:
First learninglab (2 days)-17
Second learninglab (2 days)-35

2.2 TESTLAB

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Question

How can we make pupils –from secondary level part time learning – (inter)actively participate in social, society-related topics by means of our Drøme methodology.

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Aim

We test how the young people in the target group experience the Drøme LearningLabs and how they participate. We map out our findings via videos, reports and via the website. Then we evaluate the results and formulate together with our partners the aims of the future learninglabs.

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Partners

We, EW32, have with 4 LearningLabs started a cooperation with the CLW in Ghent. This cooperation has been possible after Lieven Achten, coordinator and facilitator of social projects within EW32, had a scouting conversation with Edwin Hantson, head of the Pedagogical Support Services of the Ghent Department of Education. A conversation followed with Alderman Rudy Coddens, who agreed to test our project within the Ghent educational system.

1. Part time education

In 'part time education' pupils get courses during 2 days a week. The other 3 days they are supposed to do part time work. This form of education comes under the competence of the Flemish Minister of Education (for the hours during which the pupils attend courses). They hours they spend in businesses or firms come under the responsibility of the federal Minister of Work.

2. CLW

The CLW is the Centrum voor Deeltijds Beroepsonderwijs in Ghent (Centre for part time vocational training). It is not possible to define a distinct type of pupil for the CLW (and other part time training) but often we deal with pupils who prefer doing things with their hands to studying.

Within the CLW one cannot obtain a diploma, as is the case in full time secondary education. With CEDO pupils get a certificate. These certificates are issued depending on the progress the pupils make during training.

Pupils of CLW are between 16 and 18 years old. We distinguish several different groups:

- Young people who find a full part time job immediately
- Young people who need an intermediate step (an introductory stage or a bridging project) to a.o. work at their attitude
- Young people who for diverse reasons find no job and do not start in a project nor in indentures. These young people need either restricted individual guidance or very intensive individual support.

Characteristic for those pupils is weariness of school, immatureness to start work, lack of opportunities, they are often low-lettered, of a foreign mother tongue and moreover they form a very heterogeneous group.

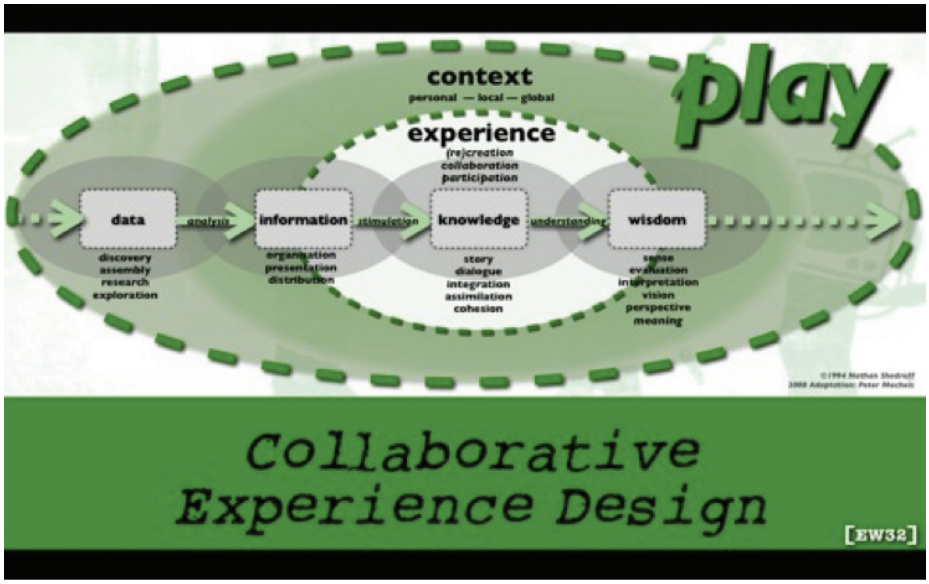
Most problems are to be found with young people who don't find (or don't want) a job and who don't wish to step into a bridging project or introductory stage. These youngsters don't only have problems in school education. Their situation is very often also linked to lack of opportunities, family problems, social problems or even addiction problems and discrimination.

2.3 Method of research

Our method of research of our LearningLabs with the theme 'Young people and Debts' is a form of participative research. In cooperation with the whole interest group we look within our target group for opinions, points of view, visions on the chosen topic. From this point of view solutions very quickly emerge. Via these solutions we try to find points of contact, conclusions, experiences of our target group. Thus we do not research from the outside, but from the inside, from within the experience of our target group.

- We do this in their own proper language
- We do this in a form attractive to young people
- We do this with means the young people know: internet and mobile communication

By means of our Game labs they generate themselves the necessary insights in their faster and faster evolving world starting from a personal, local and global context. Serious topics, in a present-day (game)form.

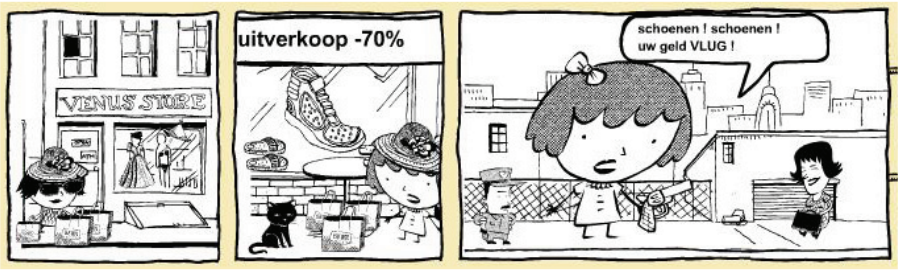


We make use of a method (DRøME SeriousUrbanGaming) through which young people themselves give shape, contents and experience *to serious stuff*:

- They make use of the habits and language they know from their online existence (sms, msn, weblog etc...). They mix these with the language and the forms they know from the street, from home, from friends and family.(photos, videos...)
- They hereby bridge the digital gap between digi-illiterates and digi-kids, and they involve attendants, teachers, youth workers and social workers in this process.

2.4 Working method TestLab

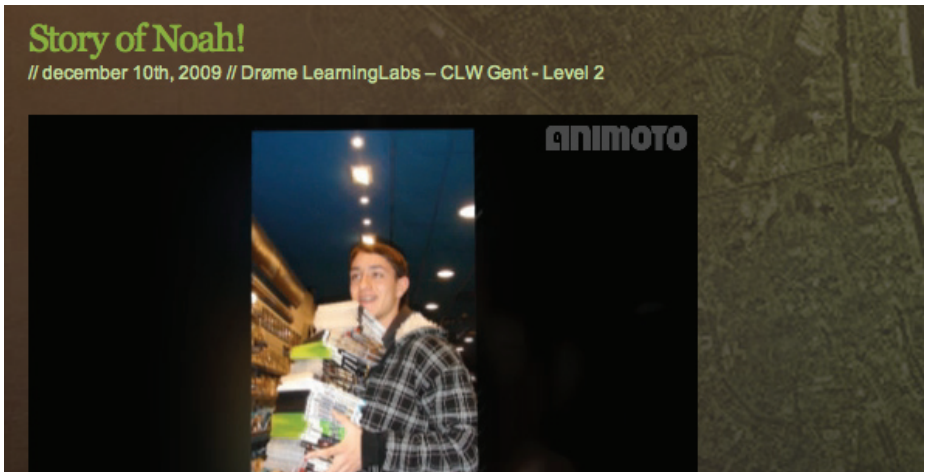
Day 1
Through brainstorming each group has scrutinized causes and solutions to the topic "Young people and Debts". Then they choose an angle of incidence via a theme defined by us (in the form of a proverb).They each give their own significance to this theme and they model it into a story. They work it out with characters and scenarios. This scenario is visualised in a 3-picture



Day 2
The groups continue to work out their scenarios with the strips they created on day 1. Their strip is brought to life! They go into town to act their story and to record it on video and/or photo. In the afternoon their story is changed and mounted into a real video which they will put on You Tube. Then another brainstorming follows on how and where they will spread the video. They are told to this via the Drøme website.

Day 3

The group of pupils we already worked with was very poor in language. At the start of the learninglab they were shown a video by the Flemish Centre for Debt Mediation. Then we divided the pupils into small groups with each time a teacher present. This was necessary because it was not easy for non-native speakers to understand the tasks. Then they brainstormed and blogged a scenario. In the afternoon they went off with cameras and visualised their story. Then the pictures were mounted and the photos were downloaded in an animoto opensource programme.



Day 4

The group of pupils present on the last day consisted of the stronger pupils of the school. Some of them had already participated in the first learninglab. With this group we went into town in the morning. They carried with them envelopes with tasks. They had to finish the tasks – drawn up by youngsters from a Ghent institution – within 2 hours and then they had to map out a campaign with the material.

2.5 Observations

Owing to this 2-day test-LearningLab held on Tuesday 2nd and Tuesday 9th June 2009 we have learned a lot about young people in target groups and about teachers and their teaching aims. We have also learned about their way of thinking, their social and present technical skills and their world as they experience it in combination with our Drome methodology. Our aim was to test if through our method we can come closer to the everyday world and fields of interest of the young than is possible within the present educational system.

Cooperation with EW32 can improve the motivation of the pupils, especially because their part time study becomes more active and more diverse in this way. Not only attending lessons becomes more fun, but also teaching becomes more exciting and more informing because we find ourselves straight in the middle of the everyday world of the young. The pupils learn to make choices and to find solutions. In short:

education becomes more fun, more realistic and easier and moreover difficult/serious topics become easier to discuss.

It is important to have a meeting with teachers and EW32 before the learninglabs. Together they go through the process. They agree on the way in which working on the topics can continue in class. What have teachers already done in their class concerning the topic? What can we deal with? What are the teaching aims?

It is important for attendants of workshops to be briefed properly on the potential of the pupils. But it is the task of the attendants to try and get the youngsters beyond certain boundaries. The context in which they work together is a very important factor here.

2.6 Conclusions

We think that a continued cooperation between EW32 and the CLW may yield a large number of advantages for both parties, especially because they are looking for new methods in the educational system, and may well become successful. Knowledge and information of both parties may be transferred onto each other so that we both become stronger.

Findings of the young people in relation to the topic:

- Youngsters recognize that having debts can have unpleasant consequences.
- Youngsters indicate what is for them important when it comes to spending pocket money.
- In group discussions they clearly indicate which factors play a part in accumulating debts by young people.
- Young people from other East-European countries like Albania, Bulgaria,... look differently at money. Very often they have come to Belgium with their parents and have come into touch with illegal work. Banks, saving, are notions they do not know or know very little. We think special attention is necessary for this group and that they need a specific approach.
- They find the method pleasant, clear and smooth.
- They don't have the feeling they are learning, but they admit that the topic holds on.
- They are more motivated to work together and to participate in the discussion because they are in non-scholastic surroundings and because they are allowed to go into town.
- The young people keep to the rules without problems and they cooperate.
- The motivation becomes even stronger when in the end they can create a game which will be played by the others.
- Because they can review the results of their actions they feel more involved. They inquire after the results themselves and/or surf to the website.
- -There is a difference between youngsters who have direct access to the web and those who haven't.

Sensing and Georeferencing Schoolyards to Develop Inclusion

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Abstract. This paper attends to the multiple dimensions of the digital divide, including the importance of the geographic location and the related socioeconomic dimension. Likewise, the diversity and quality of the educational uses of ICT are explored and related to the characteristics of Portuguese elementary schools aiming at promoting rich and equal educational opportunities in schools of dissimilar Portuguese regions. Based on the lessons learned in various research projects, this paper argues that everyday mobile technologies, participatory activities and georeferenced multisensory information can be important to promote children's digital inclusion in geographically diverse elementary schools. Furthermore, this paper explains how augmenting georeferenced multisensory information with electronic sensors' data can scaffold the task of bridging concrete and abstract learning experiences. By improving the uses of ICT, this research is fostering inclusion. Finally, it is referred that future work will integrate the use of interactive objects to better scaffolding the joint use of qualitative and quantitative information.

Keywords: children inclusion; georeferenced multisensory information; mobile sensors.

1 Introduction

Aiming at developing children's inclusion in elementary schools, this paper attends to the multiple dimensions of the digital divide, including the importance of the geographic location and the related socioeconomic dimension.

To address the multiple dimensions of the digital divide among children it is crucial to examine the nature of access and use of the Internet [1]. The 'UK Children Go Online' survey made it visible that "basic use makes for a narrow, unadventurous, even frustrating use of the internet, while more sophisticated use permits a broad-ranging and confident use of the internet that embraces new opportunities and meets individual and social goals" [1].

The authors of this paper believe that ICT can play an important role in overcoming geographical, social and economic inequalities in education [2] [3],

recognizing that ICT affordances to collaboration, networking and real-time world learning are fundamental to improve education [4] and to promote inclusion.

Some research and educational projects, such as Social Tapestries [5], and Panwapa [6], have illustrated the potentials for inclusion of educational activities that allow kids and youngsters to make their voices heard by georeferencing their sensations and emotions in the context of their everyday culture.

Georeferenced multisensory information offers an opportunity to engage a community of users, situating collaborative learning experiences in everyday contexts [7]. Easy to use ICT tools such as virtual globes and GPS mobile devices are responsible for the widespread, noticeable presence of space [7], making it easier to georeference information and to explore it at any time from any place. Besides mobile technologies can also play a significant role in the engaging exploration of sensory information [7].

Nowadays in Portugal it is possible to observe regional/geographical inequalities related to home access to Internet [8]. On the other hand, the Portuguese governmental projects "e-escola" [9] and "e-escolinha" [10] installed a broadband connection in all public schools. Moreover every elementary school student can acquire a laptop with mobile broadband at a low price.

In this context, the present paper starts by revisiting a set of Portuguese ICT projects that contributed to give voice to children of schools located in diverse regions, allowing those that are excluded from regular and in-depth use of ICT to create georeferenced multisensory messages, using mobile technologies in significant and rich educational activities. Afterwards, aiming at improving the value of such activities, this paper presents an in progress project that use mobile environmental sensors to augment georeferenced sensory information with sensors' quantitative data, fostering the linkage between concrete and more abstract learning experiences. Finally, this document summarizes the conclusions and the future work.

2 The inclusive importance of being on the map

Internet@EB1 was the first Portuguese project aimed at promoting the educational use of the Internet in primary schools [11]. From 2002 to 2005, all primary schools received the visit of elements of the project staff to support the development of the website of each school. At date some of the Portuguese primary schools had only one teacher, less than 10 children and were geographically isolated. As a result, it was very difficult for the staff to discover the location and the way to such schools: they were not on the map!

Almost every Portuguese public elementary school has developed a Web page, with the participation of children and teachers and the support of the Internet@EB1 project. Since schools' community and environment are central topics in schools' Web pages, a huge quantity of geographic information has been created and made available in the Portuguese elementary school Web pages [12] (see Figure 1).

One of the most relevant results of the Internet@EB1 project was this (virtual) visibility of Portuguese primary schools. Using the World Wide Web, this project

made it possible for schools to communicate, with a new medium, not only their location and contacts but also their situated everyday activities.

Fig. 1. Examples of geographic information created by children during the activities of the Internet@EB1 project.

Based on the lessons learned and described on the two external evaluation reports of the Internet@EB1 project [13] [14], the SchoolSenses@Internet project went on with the exploration of the Web, as a medium of schools' communication and visibility, to promote educational inclusion and success.

In order to create a primary education network of identities in Internet, the SchoolSenses@Internet [15] project developed a multisensory webmapping of the primary schools and of their local environments and communities, using georeferenced multisensory communication as a bridge to different learning and expression styles, to complexity, and to real learning.

In the SchoolSenses@Internet project, the use of GPS enabled mobile phones and laptops, together with the call for the use of human senses, made it possible for children to collaboratively create, publish and browse (see Figures 2 and 3) their multisensory views and opinions about their schoolyards in the planetary context of Google Earth (GE) [16]. Multiple environmental views enriched this participatory process of creating and sharing personal and communal geographies [7] [17].

Fig. 2. Children creating and browsing georeferenced multisensory messages.

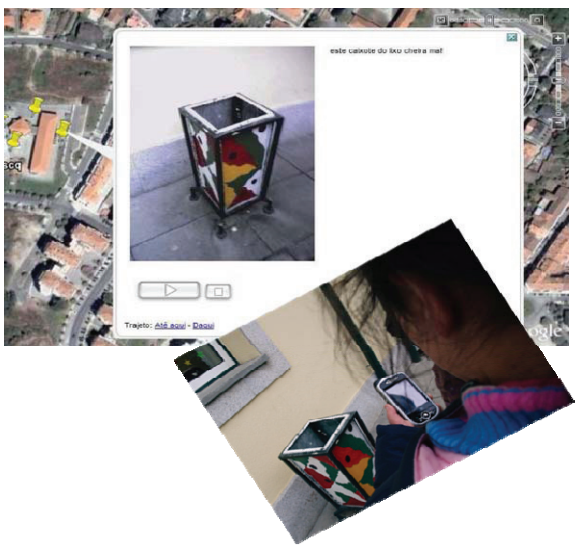

Fig. 3. a) An example of a georeferenced multisensory message. Soundclip with the sound of a toilet flush. Text: This garbage can smells bad. b) a children creating the message

The creation of local multisensory information together with its browsable presentation in large-scale contexts contributed to giving voice to the more digital excluded children, and to making school communities more visible, even the more

geographically isolated ones. GE was a very important tool in that process. GE's immediacy of response, the fluidity of the graphics [18] and the tight connection between action and response are the main factors that were responsible for the engagement created during the activities [19].

In the SchoolSenses@Internet project, GE was used as a social web tool to augment geographic reality and to build up geographic inclusion. In order to assess children's activities, namely engagement and participation, the tasks developed by each group of two or three children were observed by a member of the research team. This way, it is possible to state that every child of each participant school class did engage in all the tasks, and participated, in an active way, in the creation, publication, and exploration of georeferenced multisensory information.

3 Bridging the Gap between Concrete and Abstract Information

Following the results of the SchoolSenses@Internet project, the USense2Learn project was developed to allow elementary school children to augment georeferenced multisensory information with quantitative data acquired by mobile electronic sensors. The goal was to develop an ICT tool that could increase the quality of the digital inclusion by scaffolding the complex task of bridging the golf between concrete and abstract learning experiences.

In the developed case study, the 25 children of an elementary school class were challenged to explore their schoolyard to produce multisensory georeferenced messages about it. The messages were created with a GPS enabled mobile phone – that also displayed the data acquired by the sensors – and published on GE [20]. Once more, the activities developed by each group of two or three children were observed by a member of the research team.

The Usense2learn platform aims at explicitly supporting children in linking the abstract quantitative data from sensors to the concrete qualitative data acquired through senses. Children didn't spontaneously relate these two types of information. Nevertheless when they were asked to integrate the environmental data acquired by the sensors in their georeferenced multisensory messages, they did it easily. It seems important to explicitly support children in linking sensory to quantitative information, since this task is not usually encouraged in the school context.

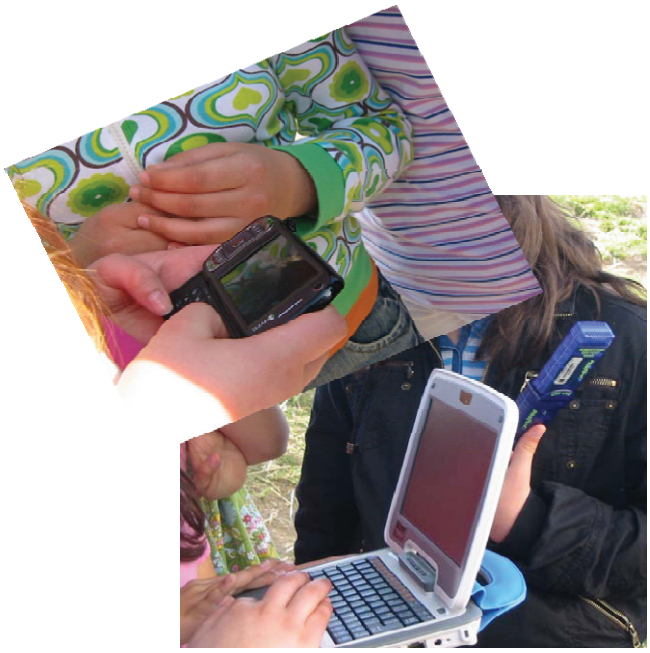

Fig. 4. Childrem analyzing sensors' data and creating georeferenced multisensory messages augmented with temperature and humidity data.

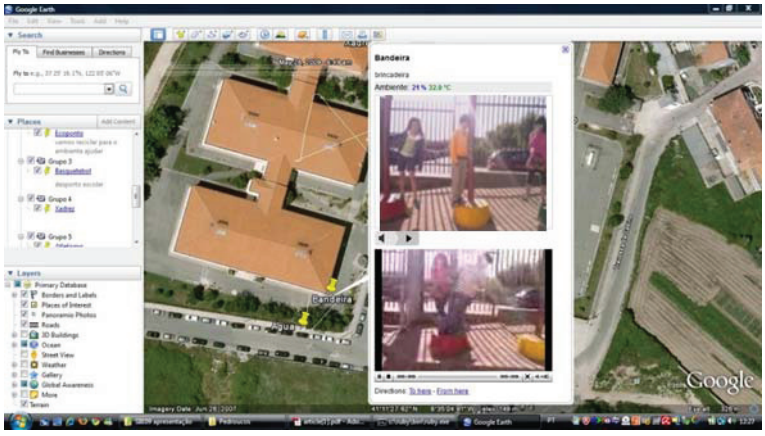

Fig. 5. An example of a georeferenced multisensory message augmented with temperature and humidity data. Soundclip with the voice of a child saying: It's hot! Text: Playing.

The embodied experiences in the schoolyard environment were lived by children and portrayed in their messages (see Figures 4 and 5). Those experiences were also recalled by children some weeks later in the classroom, when the same messages were analyzed in order to interpret and contextualize the sensors' data. Weather sensations,

such as heat and luminosity, were important sensory marks for children and were useful in making sense of the schoolyard environmental complexity.

The project results confirmed that it is not easy for children to simultaneously relate the four variables in analysis: temperature and humidity (measured by the sensors); and the two independent environmental variables - time of the day and exposure to sun. After the analysis of the data, which was supported by the teachers, when asked to relate those four variables, 3 children (2 boys and 1 girl) wrote sentences that related the temperature both to the time of the day and to sun exposure (3 variables). However, 18 children (8 boys and 8 girls) wrote sentences that related temperature to the time of the day and 6 children (2 boys and 4 girls) wrote sentences that related humidity to the sun exposure (2 variables). Furthermore, only 4 (2 boys and 2 girls) of the 25 children wrote sentences indicating wrong reasoning on the relation between temperature and humidity and their dependence on the time of the day and on the sun exposure of the different schoolyard sites.

The Usense2learn platform showed potential as a scaffolding tool with respect to the analysis of the multiple variables of environmental information. It promoted inclusion allowing each and every one of the children, together with their teachers, to explore (in the field with sensors and senses and in the classroom with GE), create, communicate (both with the mobile phones) and reflect on qualitative and quantitative, objective and subjective environmental information in their everyday contexts. The ICT tools used were found to be engaging for children and to allow (re)visiting sensory experiences in more formal and abstract contexts.

4 Conclusions and Future work

This paper presents the results of a set of projects that aimed at contributing to overcome the digital divide in what concerns its geographic dimension and the quality of the educational uses of ICT by every schoolchild. The use of the human senses, of the mobile electronic sensors, of the GPS enabled mobile phones and of GE was considered useful in allowing all the children of diverse Portuguese elementary schools to collaboratively place their schoolyard on the map, as well as to link, in a meaningful way, the concrete to the abstract learning. Moreover, GE was successfully used as a real-time webmapping and networking tool with potentialities to include every child and school.

However, this is an ongoing task. The authors of this paper are members of the research team of the School (Re)creation research project that will address the collaborative use of ICT to support the participatory design and development of sensory learnscapes in schoolyards. This research will investigate the integration of electronic sensors in schoolyards' interactive objects to improve the ecological footprint of each school, and to study if the use of these objects affords lowering the abstract level of environmental analysis.

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Inclusion and Children with Medical Needs: the Bednet Case

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Abstract. Bednet is an organisation that enables children and youngsters with a long term or chronic illness to connect to their mainstream school from hospital or home. An adapted computer configuration and specific developed software with intuitive user interface simulates the class situation at the child's site. A broadband internet connection enables two-way communication and is also used to keep contact with the classmates during and outside class time. This limits or even avoids not only school retardation, but it also contributes to the child's healing by supporting a goal-oriented motivation and diverts the child's focus from illness and its consequences to a more "normal" life. It also combats risk on isolation and social exclusion as it offers the child an easy way to stay in contact with classmates.

Keywords: ill children, exclusion, school retardation, youth at risk

1 Introduction

The education of children and young people with medical needs is often overlooked in the inclusion debate. Their number may be considered small in comparison with other groups that are socially excluded or tend to be, but as Farrell and Harris state "In any given year there are a significant number of children and young people with medical needs, (…) who are unable to access education in their mainstream school."[1] In their research report, these authors give recommendations for the access to education for children with medical needs and map the best practices. They focus primarily on the situation in the United Kingdom, but their findings and conclusions are in line with outcomes of similar studies and reflect also the experiences of practitioners in most other European countries.

Especially those children that cannot go to school as a consequence of illness or severe injury are not only threatened with school retardation, but also with loss of their contacts with the "outside world", in particular their classmates and teacher(s). Existing education in hospital schools[1], as long as these children stay in hospital, and

[1] See e.g. HOPE (Hospital Organization of Pedagogues in Europe), http://www.hospitalteachers.eu

support for learning at home tend to focus primarily on the issue of instruction, less on the need for social inclusion.

Bednet[2] tries to cope with both education and inclusion. Bednet is a non-profit organisation that enables children and youngsters between the age of 6 and 18 who are suffering from a long term or chronic illness to access the education and social environment of their mainstream school in the Flemish region (Belgium). Although staying at home, in hospital or in a revalidation centre, the ill child is able to attend classes and communicate with his or her teacher and classmates through internet technologies, thus limiting the school retardation and loss of social contacts.

2 The Bednet System

For this purpose, Bednet developed the "Bednet system", a dedicated environment with an intuitive interface that mirrors the child's desk at home (see fig.1). It facilitates the use of the IT-based learning resources, the IP-videoconferencing tools, and the remote access by teacher and child of scanners and printers at the school and the child site for the exchange of documents, assignments and exercises.

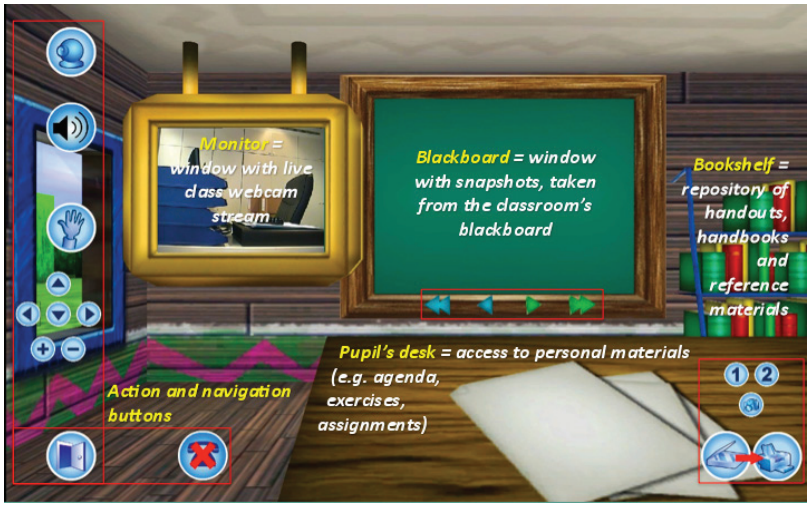

Fig.1. Bednet system's intuitive interface

The Bednet system started in the school year 2007-2008 with a pilot project involving 39 children. At present (2009-2010) about 120 children are served by the system simultaneously. It is the ambition to enlarge this number in the future to about 500, as this is the estimate of the yearly number of ill children that cannot go to their mainstream school for a longer period of time and that could benefit from Bednet. Of course, this number does not reflect the objective need for education of ill children, but not every child is best served with the Bednet scheme. A long hospitalisation for

[2] http://www.bednet.be

instance can build up a gap that becomes too big to join later on the ongoing classes. To keep the system accessible for everyone, it is free of charge. Bednet covers all costs: the research and product development, the equipment that both school and child will use during the illness period, the installation of broadband internet connections, the communication costs, the technical helpdesk and the technical, pedagogical and organisational support that is offered to school, teachers, pupil guidance centre, classmates, parents, and of course also the ill child. For that purpose, Bednet's central staff and a larger set of regional collaborators are closely working together. The central staff's main functions focus on management of the operation, representation and coordination with external partners as well as necessary fundraising. The regional collaborators establish and maintain the contact and support links with all actors within each Bednet "project", i.e. the time that an ill child uses the Bednet system. This implies that even before a Bednet project starts, an intake procedure is initiated by a regional collaborator, who contacts not only the child and its parents and teacher(s), but also the school principal and ICT coordinator, the pupil guidance centre, (possibly) the hospital school in which the child (also) attends classes, the teachers that will cover (eventual) education at the child's home, etc. It is the intention of this intake to clearly present to every actor the Bednet system, its benefits, limits and implications (e.g. the use of technology, keeping expectations realistic); but also to cope with resistances (e.g. teachers that fear being watched through the webcam by parents; parents that fear fatigue of their child by the education; the child being afraid of showing its condition to classmates). This intake procedure ends with the joint decision to start a Bednet project for the child, or to look for another alternative (e.g. wait until obstacles have been removed, choose for another approach than the Bednet one). Once the Bednet project runs, it is again the responsible regional collaborator who follows it up, who supports all actors where needed, who also evaluates progression and takes the necessary measures to prevent and/or solve problems. The only exception to this rule is the online helpdesk, which is centrally organised. It is accessible through a chat function and offers the possibility to the helpdesk collaborator to remotely take over the child's laptop or school's desktop computer to solve emerging technical problems.

2. Experiences with Bednet

2.1 Facts and Figures

A Bednet internal study found that per year more than 2,000 Flemish children between 6 and 18 years are forced to stay away from school for more than 1 month due to medical reasons. This number may be small in comparison with the 1,009,578 children that followed regular, full-time education in Flanders during the school year 2008-2009.[2] However, in absolute numbers, it remains important enough to be concerned about. If these children are staying in larger hospitals, they often can go to the local hospital school; when staying in smaller hospitals or being cared for at home, they are under certain conditions entitled to get a limited teaching "at home". However, planning such teaching is not easy as medical reasons interfere (e.g. examinations,

pain, feeling unwell, etc.). Also the teaching itself needs continuous consultation with the child's regular school to keep in line with its programme, educational methods and used handbooks, and to ensure a smooth transition to regular education after illness.

In spite of all these initiatives, some missing links and uncovered areas remain. This was precisely the reason for setting up Bednet: it is complementary to other initiatives and offers added value:

1. Each *Bednet project is custom tailored* to the child's individual condition, needs and expectations, as the result of the intake by the regional Bednet collaborator. The same regional Bednet collaborator will provide continuous support to facilitate and adapt this customisation as the project evolves. One element that is especially taken care of is the balance between the child's right to education, and the child's right of being ill, which has of course consequences for attending lessons and performing according standards and objectives.
2. Bednet also takes into account the *needs and expectations of the other "users"* involved in the system (teacher, classmates). A Bednet child may be e.g. a hindering factor for the class in reaching the objectives that are set, as the child may have missed a considerable number of lessons before the project could start up. Moreover, teacher and classmates must be willing and able to engage in helping the Bednet child during and outside lesson times.
3. The *system is easily accessible and user-friendly*. All necessary functionalities that are needed for the teaching/learning process and communication between actors are included in the system. They are all accessible by clicking the relevant icons without having to open other windows or start additional programmes. The intuitive interface makes instruction for its use at both class and child site a matter of a couple of hours. The installation of hardware and software at both sites takes place at the same day and testing on correct functioning can be done immediately. As the system is lent out to school and child, Bednet gets better control over completeness and functioning of the equipment and the helpdesk can be organised more efficiently. When the child returns to school after illness or during summer holidays, all equipment is returned to Bednet for verification of the hardware and installation of necessary software updates. Moreover, the equipment is disinfected before it eventually goes to another child.
4. Its use is *free of charge* for the child, the school and the hospital. All costs are covered partially through funding of governmental bodies, through sponsoring by major companies and gifts from service clubs, local supporter initiatives or private persons.
5. The *school remains totally responsible and in control* of the lessons' content. And to ensure that the teacher can concentrate on the class management, classmates of the ill child operate the infrastructure at the school site. For this purpose they receive a specific training and are clearly instructed to contact the helpdesk in case of more important technical problems, to avoid that the system would distract them from properly attending the class themselves.
6. *Bednet collaborates intensely with all other actors* involved in the education and care of the child: parents, school, pupil guidance centre, hospital school, teachers at home, even towards welfare and voluntary services. This support is maintained during the full project, from intake to aftercare, e.g. if a Bednet child dies. It includes that Bednet is providing help by referring to the most suited persons and

initiatives, but it may also come down to coordination of these helping instances, as availability of a structural measure that appoints a formal coordinator of such operation is to date still missing and partners consider Bednet as an organisation with the relevant expertise.

7. Since its foundation, Bednet has been concerned to develop its *expertise,* consolidate it through *knowledge management* and *share* it to all relevant actors. Each Bednet project is for this purpose monitored and evaluated during and after its lifetime. Special attention is paid to failure and success factors, and all collaborators have regular meetings to share their experiences. Professional development is offered to them in order to optimise their functioning. A reference book is being developed to gather the built up expertise and distribute it to all actors involved in the Bednet activities. Collaboration with IT-companies ensures a follow-up on technical and technological developments. To investigate both theoretical and practical aspects connected to the Bednet operation, collaboration is being set up with the academic world. Finally, networking with similar initiatives in Europe has been initiated. A European project is being prepared to enlarge and intensify this networking.

Currently, 120 children use *simultaneously* Bednet. Another 28 children participated this year also, but their project ended already in the meantime. All participants are the result of a larger group of about 250 applicants. In the school year 2008-2009 [9], the total number of participants was 75, with also then a larger number of applicants. Applications then came in 31% from parents, 38 % from the child's school and 23% from the hospital school in which the child had attended classes during hospitalisation. In 35% of the cases, a project could not be started for various reasons: medical reasons, the preliminary absence of school did last too long for the child to catch up, another solution was preferred by school or parents, Bednet had temporarily reached its maximum capacity, etc. but the main reason was an estimated absence from school that is too short for justifying a Bednet project. The criterion for starting up such project is indeed set to an expected school absence of at least 2 months, including 2 weeks for intake and for preparation of the installation of the internet connection and equipment in the school and at the child's site. A dedicated broadband internet connection had indeed to be installed in 65 % of the participating schools and even in 81 % of the child's home.

2.2 Bednet's future

Bednet is close to meeting its physical and financial limits. More and more Bednet children remain in the scheme for a longer period of time, even for more than one school year. As a consequence, less equipment is available and new applications have to be transferred to a waiting list. Furthermore, Bednet is constantly challenged with requests for coordination of available actions towards education of ill children, for extending its operations beyond explorative experimenting with children from nursery schools, special needs education and vocational education, as well as for enlarging the number of simultaneous Bednet projects. However, this would require optimisation of the system and of the way projects are set up and run, as at present this is very labour

intensive and hence extremely costly. Moreover, it becomes currently almost impossible to cover additional equipment costs, connections and IT-services without structural funding and recurrent sponsoring. It is a constant concern of the Bednet management and Board of Directors to find solutions for these emerging challenges.

3. Bednet and Social Inclusion

Social inclusion is needed in an educational environment. Firstly, while it is important to have social bonds for an individual's psychological development and health. Abrams et al. [3] provide a nuanced picture of this importance through their research literature review and social psychological framework for understanding social inclusion and exclusion. Second, while there is the social dimension in learning itself.
In his social learning theory, Bandura [4] states that most human behaviour is learned through observation and modelling: "…from observing others one forms an idea of how new behaviors are performed, and on later occasions this coded information serves a guide for action." (p. 22). Whereas Bandura is a typical representative of the neo-behavioural theorists within learning psychology, new insights, expressed in a learning theory called constructivism, gained a growing importance in the early 1980s. Shuell [5] identified a limited set of features of learning processes. According to him, learning is active, constructive, cumulative, goal-oriented and self-regulated. Lave and Wenger [6] added later the contextualised nature of the learning process and, hence, the social nature of learning outcomes. Building on the social learning theory, social constructivists emphasised on the "defining principles that maintain the social nature of knowledge, and the belief that knowledge is the result of social interaction and language usage, and thus is a shared, rather than an individual, experience" [7].
In line with these insights, Rimm [8] formulated a set of "laws" about motivation. She distinguishes amongst others that (1) children can learn appropriate behaviours more easily if they have an effective model to imitate; (2) children feel more tension when they are worrying about their work than when they are doing that work; (3) children develop self-confidence through struggle; (4) children develop confidence and an internal sense of control if power is given to them in gradually increasing increments as they show maturity and responsibility; (5) children will continue to achieve if they usually see the relationship between the learning process and its outcomes.
The Bednet system supports precisely this social constructivist approach, to combat underachievement and school retardation. Experiences as reported in the Bednet evaluation report 2008-2009 [9] confirm so clearly.
At the same time, this social dimension of learning promotes also the social binding between the ill child and the group of its mainstream class. The ill child participates not only in collaborative learning events during and after class with its classmates, but in each class a couple of classmates take the responsibility for establishing and monitoring the connection of the ill child with the school during class time. This way, the teacher can focus on the instruction of the class, without being distracted by the technology, and at the same time the responsibilities that classmates take tighten the binding between the ill child and the social structure of the class group.

Ongoing experiments with cameras that the ill child can operate remotely (pan, zoom in and out) make the child's presence more apparent. A far better view of the blackboard and teacher as well as individual classmates becomes possible for the ill child.

Social inclusion is further promoted through the videoconferencing facilities of the Bednet system. It takes place between the ill child and her or his classmates during the breaks and eventually after school time. Dedicated social software might enlarge Bednet's inclusion capabilities and could be a welcomed function extension, but it has not been explored so far.

Conclusion

The experiences during the four years of Bednet's practice demonstrate clearly that the Bednet system contributes to the promotion of social inclusion by combatting school retardation and maintaining/re-establishing social contacts between the ill child and its classmates. Social software is not yet implemented in the Bednet system, as it focuses on – from the viewpoint of the ill child – teleclassing, rather than implementing a digital teaching and learning environment, in which social software has a more obvious function. Social software could however be implemented for contacts between the ill child and the classmates outside class time. It would contribute to enrich the Bednet system and make it more effective with respect to its social inclusion objective.

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Excluded young people's perspectives on how digital technologies support and challenge their lives?

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Abstract. This paper reports on in-depth semi-structured interviews carried out with 13 young people at a Pupil Referral Unit in the UK for permanently and temporarily excluded students. The study from which these findings are drawn explored young people's uses of Information and Communication Technologies (ICTs) outside of school and, in particular, informal learning practices. The interviews with excluded young people found that these young people often had reasonable access to digital technologies - suggesting a closing of the 'participation gap' in terms of access at least - and were integrating these technologies into their lives. Nevertheless, digital technologies were also presenting challenges which they were struggling to manage.

Keywords: digital technologies, excluded young people, marginalised young people.

1 Introduction

S. Craig Watkins has spoken about the necessity of understanding how different groups of young people are integrating digital technologies into their lives. Building on his work with black and latino youth, he argues that young people are not a homogenous group and that there needs to be an acknowledgement of this and examination of how different kinds of lives lead to different kinds of online experiences [1]. These differences become particularly important given the importance of identifying and seeking to address the 'participation gap' [2]. Given that authors such as Jenkins have highlighted the importance of digital participation for young people as a means of involving themselves in social and civic activities, learning and work. There is then due concern that some young people may not be able to leverage the benefits due to 'the fundamental inequalities in young people's access to new media technologies and the opportunities for participation they represent' [3].

Nevertheless, 'access' in this context is not just about the material, economic differences between young people that can influence their ability to pay for particular products and services. It is also about having the social networks and cultural competences: the skills, the interests and life experiences that can shape the online environment that young people make for themselves [4]. Peter and Valkenburg call this the 'emerging digital differentiation approach' which predicts that differential use patterns will occur even if all young people have access to the internet. As they aptly

describe it: 'If gaps close at one stage, they open at another. For example, if internet gaps are bridged, internet skill gaps or internet usage gaps occur'[5]. Moreover, these differential use patterns result from unequal socio-economic, cognitive and cultural resources [6]. This suggests therefore, that even given reasonable access to the internet and other digital technologies, some groups of young people may not be able to access the benefits for learning and education, social and civic engagement, as their contemporaries are.

Yet, given the concerns expressed here, most research about young people's uses of digital technologies has been carried out in or with young people attending mainstream schools [7] [8]. Whilst this often includes some young people from low income and disadvantaged backgrounds, very little research has been carried out specifically to account for how distinct groups of young people - such as those excluded from school - are using digital technologies and how these technologies are being integrated into their lives. It is often assumed that marginalised young people simply do not have access to technology at home or the skills to use it [9]. Moreover, debates are caught between those who advocate ICT programmes for the re-engagement of disengaged youth; and those who argue that the 'technology revolution has broadened the gap between the engaged and disengaged and created a further divide for young people already experiencing significant marginalisation' [10]. This paper has worth, therefore, by reporting on interviews with a group of excluded young people whose perspectives are very often 'silenced' in educational technology research. The findings were taken from a wider study, funded by Becta, the UK government's agency in the development and delivery of e-strategy, which sought to understand what, how and why people learn outside formal educational settings using technology. Research questions included:

- How do young people individually and as members of social groups manage and develop their engagement with digital technologies in order to adapt it to their needs?
- What sources of frustration, lack of skills and lack of opportunity separate many other young people from the benefits of the same new technologies?

2 Data Collection

This paper is based on data drawn from the first year of a large three study, 'The Learner and their Context' study being carried out at the Department of Education, University of Oxford. The wider research project combined qualitative and quantitative data collection methods in three phases: a) semi-structured interviews with 100 children and young people from age 8 upwards based in school, college and university; b) 40 case study visits carried out in the homes of the young people interviewed for a); c) a survey of 1000 children and young people carried out in homes by a commercial social survey company. This paper is drawn from qualitative data collected from one specific strand of the project, in-depth interviews carried out with 13 permanently and temporarily excluded young people in a Pupil Referral Unit.

The Pupil Referral Unit was chosen as a means of identifying a comparative group of young people to those attending mainstream educational institutions. Table 1 shows the age and gender of the sample.

Table 1. Description of sample of excluded young people.

Age group	Boys	Girls	Total number
12-13	3	0	3
13-14	2	4	6
14-15	3	1	4

Pupil Referral Units are set up and run by UK Local Authorities to provide education for children who cannot attend school. They tend to be thought of as places where disruptive young people are sent, however they also cater for youngsters who cannot attend mainstream schools because of medical problems, teenage mothers and pregnant schoolgirls, pupils who have been assessed as being school phobic and pupils awaiting a school place [11]. Four of the youngsters within the sample were referred to by tutors as 'school refusers', the remainder were said by tutors to have been excluded from school due to behavioural problems. One of the boys, for example, had reportedly been excluded from school for looking at pornographic images on a teacher's computer. Nevertheless, previous studies show that often the reason for exclusion can be 'the last straw' in a succession of behavioural disruptions rather than one isolated occurrence [12].

Interview questions were focused on ownership of and preferences for particular technologies and activities, skills, risk and safety. Interviews needed some flexibility in the Pupil Referral Unit. Some of the youngsters were reticent and unforthcoming in their responses, others were provocative and challenging, several were accommodating and talkative. It was decided to hold interviews rather than using other methods to enable comparison with the mainstream groups. However, given the difficulties of engaging some of the youngsters in an interview, it would be worth exploring other methods in future research. Data was analysed according to what Strauss [13] refers to as 'constant comparison'. All texts were read to get an overall sense of the data and an initial code list developed and refined to directly relate to the research questions outlined above. The data were then coded in terms of these categories.

3 Results

3.1 How do digital technologies support these young people?

Nearly all of the young people interviewed had access to a computer or laptop with an internet connection at home (although the quality of internet access was not established). The exceptions were Malcolm, a 14-year-old boy who said that having the internet 'cost too much money' and Julia, a 14-year-old girl who mostly lived with her grandparents and only had internet access once a week when she visited her

mother. Nevertheless, at her grandparent's home she had a games console, a mobile phone and a music player in common with most of the other youngsters.

In line with studies of mainstream children's behaviour, the main activities that the young people described were focused on pleasure and entertainment, enhancing hobbies and interests and keeping in touch with friends and family. Many of the youngsters said that they spent a good deal of time playing computer games. These examples included Andrew (male, 14) who said that he spent about four hours a day currently playing Grand Theft Auto; Julia (female, 14) who said that she played around seven hours a day, mainly war games including Call of Duty and Tom Clancy's Advanced Warfighter. Given the ages of both Andrew and Julia, it is worth noting that Call of Duty and Grand Theft Auto are recommended for adults above the age of 18, whilst Tom Clancy's Advanced Warfighter has an age 16 certificate. At the other end of the spectrum, Harry (male, 13) is allowed to play computer games for one hour only at a sitting although he does admit that he loses track of time and will sometimes spend longer when his mother is out.

Some of the young people talked of using the internet in particular to support their hobbies and interests. Michael (male, 14), for example, is learning to play the guitar and has searched for particular songs, lyrics and chords online; he also tracked down a book on railways that he could not buy in the local shops. Most of the young people said that they used the internet to download music to their computers which they then transferred to music players. Elizabeth (female, 14) said listening to music was essential unless a conversation was possible:

> Elizabeth Yeah, when I'm on the train going to London or going to the seaside or on like long car trips, things like that. Because I can't sit in silence, I have to have a conversation or something.

A couple of the boys admitted that the internet was useful for pursuing their interest in pornography and, one of them said that he didn't see why he should deny this:

> Andrew I ain't gonna say that I don't like porn because I do like porn so I don't care about it. (Male, 14)

Accounts given by the young people suggested that many placed high value on and made extensive use of their mobile phones and the internet for keeping in touch with family and friends. Julia (female, 14) said that her mobile phone was 'part of my family'. Chris (male, 15) said about his mobile phone that: 'I'm always on that'. Some of the young people also referred to having Facebook and Bebo pages alongside chatting on MSN to help maintain their social networks. Two of the youngsters also talked about how these technologies helped them to cope with difficult circumstances in their lives. Harry (male, 13) talked of how he was allowed to bring his mobile phone into school (exceptionally) because he needed to support his mother who has panic attacks:

Harry No, we're not allowed to bring our phones to school, but I bring it because my mum has panic attacks so I bring it just in case she needs me. […] And I said to her, if you ever need me just ring me and I'll come… I'll see if I can come home to sit with you for a bit and then come back to school.

Elizabeth (female, 14) talked at length about using the internet in different ways to support trauma in her own life. She had set up what has been referred to as a 'Memorial Site' on Facebook [14] to help remember and cope with death of a friend who had been killed. She talked of how this had helped her:

Elizabeth Yeah. Yeah it's helped me… it's like it's helped me a lot because when he died I was like really upset. Yeah, so…

She also talked quite nostalgically about missing a time in her life when her family had owned a car and boat and how she continues to look at Google Earth to see these captured images of this previous time:

Elizabeth Yeah. and I type in my house address and see if they've got like a picture of my house and I used to have my boat in my garden, you know back garden, but…

Whilst these young people are using digital technologies to support them, they are also encountering challenges alongside the benefits and these will be considered in the next section.

3.2 How do digital technologies challenge these young people?

Compared with studies of mainstream young people using digital technologies, most of the members of this group of young people say that they lack motivation for learning in general. And this is reflected by a corresponding lack of motivation to learn technologies, such as the internet, to support either school work or to enhance their own hobbies and interests. As Andrew (male, 14) put it when asked about homework: 'I won't do it anyway. They know that I hate it'. Not all, but some of the young people also rejected the idea of learning informally using the internet to enhance any other interests they might have or perhaps to find new hobbies. Louise (female, 15) said that she had little interest in anything except shopping:

Louise All my life's boring at the minute. […] I ain't got no hobbies, I don't do nothing. Actually shopping is a hobby. When my mum's spending, spending lots of money on me.

Some of the youngsters seemed content with the level of their skills for what they wanted to do as Janine (female, 14) reported:

Janine I just do what - do I know what I can do. I just do what I know I can do and that so.

From interviews, it's difficult to know what level of skill Janine and the other young people are capable of. Julia (female, 14) was able to articulate carrying out what sounded like a Google search:

Julia	Yeah, you know you've got the big long bar, and then you've got this like little square bar at the top where you just type in something like how old is, I don't know, Meatloaf or Cher.

Nevertheless, several of the young people admitted that they were overwhelmed by the content on the internet, and using computers in general. Chris (male, 15) talked about how he somehow failed to learn to use a computer despite having access to one, and he has this in common with his friends:

Chris	They're like me they never got the hang of it.
Interviewer	Do you mind not using it? You know, your mates don't say…?
Chris	No most of them don't use them anyway. They've all got them… it's like me, I've got it I just don't use it.

Interestingly, he admits that he would like to improve his digital literacy skills but when he is offered support at the Pupil Referral Unit, his motivation is lacking. Of course, this could be an issue of self-efficacy whereby Chris is convinced he is never going to learn so finds it difficult to take the opportunity when it presents itself. Perhaps being 'bored' is a means of hiding what he believes he cannot grasp.

Interviewer	No I'm just wondering whether having decided that you're not interested and you don't do it you sometimes wish you had, you know.
Chris	Yeah, sometimes I wish I was like better at it, yeah, but…[…]
Interviewer	And there's nobody trying to teach you to here? Nobody saying, come on…?
Chris	Yeah, they try like when I do ICT, they try and get me like… but I just get bored with it.

The words 'bored' and 'boring' feature often in the interviews and the use of these terms appears to be an attempt by the young people to cover over situations and experiences which are uncomfortable for them. For instance, Julia (female, 14) says that she no longer uses Bebo and MSN because they became 'boring'. Further questions suggested that she stopped using these sites having received disturbing sexually abusive comments. She said that she has only been able to set her Bebo account to private sometimes which suggested that she did not fully understand the settings. She was able to turn to her 21-year-old cousin for help and her cousin suggested that she delete both accounts which she then did, not using either again. She said that she also felt more protected given that the conversation was online rather than in person:

Julia	It's in between really because if a person is far away from you and you was on MSN speaking to him or her then if they said what they

was going to do to you they wouldn't be able to find you. But if it was in person they could do it to you there and then.

Another of the girls, Elizabeth (14) had also had negative experiences online however, whereas Julia's were online only, Elizabeth's difficulties were an extension of her off-line life. She said that she had been left death threats on her Facebook page by an ex-boyfriend who had said that he was planning to kill both of them:

Elizabeth And now he's sending me horrible comments on Bebo saying if you don't get back with me I'm going to kill you and myself.

More positively, several of the young people were able to articulate safety advice - such as don't talk to strangers, don't meet people off-line that you don't already know, don't reveal personal details - although whether or not they follow this guidance is unclear. Several youngsters said that they did chat with people – usually on Instant Messenger and Facebook - who they had first met online.

3.3 How well are these young people supported to use digital technologies?

As in the case of Julia above when she received support from her cousin after she was upset by sexually abusive comments online, it is important to consider the context within which these young people use digital technologies and the support they can elicit. For example, Julia said that her cousin recommended that Julia remove herself from these communities as a way of avoiding further distress. Nevertheless, she could have helped Julia to understand the privacy settings better and to better manage her relationships online, if indeed she possessed and was able to pass on these skills herself.

Similarly, in the example above of Chris (male, 15) being offered support to develop digital literacy skills at the Pupil Referral Unit, he is somehow not able to take up this opportunity and begin to learn even though he admits he would like to be 'better'. The reasons are likely to be complex and may relate to Chris's previous experiences of learning in general, previous failed attempts to learn to use a computer, lack of confidence that he will be able to learn and the seeming lack of motivation he feels to use a computer with internet.

When asked in the interviews who the young people would turn to for help when experiencing difficulties with digital technologies, most gave the names of family members, for instance, an uncle who is a computer 'wizard' (Chris, 15); a Dad who helps his son to use the computer and internet (Andrew, 14); a stepdad who sets up and maintains the computer at home (Elizabeth, 14). Similarly, there are cases where family members have introduced the young people to particular applications such as Microsoft Word (Harry, 13) by his mother; Facebook (Andrew, 14) by his sister. There are also several examples of young people talking about playing computer games with older and younger siblings including those who do not share the same household but come to visit. Most of the youngsters who used computers could not remember how they learnt to use the computer in the first place. Some noted that they

currently develop their skills through interest-driven experimentation particularly when learning to use new mobile phones.

These findings that family members were mentioned as providing the main support seems surprising in light of other studies which show the importance of peers for the development of young people's practices and digital literacy skills [15]. Two suggestions emerged from the data which may cast light on this. Firstly, in the example given above of Chris (15) struggling to use a computer, he noted that his peers were also not very motivated to use a computer and internet. Therefore, it is unlikely that his friends would have the resources that he needs to help him. Also, one of the youngsters, Julia (14) said that she did not make friends very easily:

> Julia — Yeah. My family mostly. I don't know why but I don't get on with friends. It's like if I'm in a group of people, people tend to start arguing and stuff and I don't like it.

It seems likely, of course, that not having a good circle of friends would influence whether you could draw on their help or not for support with using digital technologies.

4 Conclusions

These findings have produced many conclusions and issues needing further research and further discussion, particularly given the small sample size. Nevertheless, these findings have worth in capturing a snapshot of excluded young people's perspectives on their digital practices and providing them with a voice often not heard in educational technology research.

One of the key findings of the small study is that these young people vary tremendously in the type and range of their uses of digital technologies and particularly in their abilities, skills and confidence with these products and services. Whilst questions remain about the quality of the computers and internet connections within their homes, it is interesting to find that they all have what they consider to be 'access'. Nevertheless, their online behavior closely reflects Peter and Valkenburg's [16] 'emerging digital differentiation' approach in that having access does not necessarily mean the possession of digital literacy skills and interest-driven technology use. In particular, it was striking how several of the young people seemed to reject outright the notion of going online to enhance existing interests and hobbies, with the exception of downloading music and in a couple of cases, looking at pornography. It was as if their resistance to formal education also governed their online informal activities that might have precipitated some order of learning.

There are some notable challenges for educators and other stakeholders who seek to re-engage these young people through their attendance at institutions such as Pupil Referral Units and beyond. Creative means need to be found to try and help some of

these young people to overcome barriers to learning which prevent them gaining digital literacy skills. Moreover, where these skills do exist, some of them - in this sample, notably the girls - need more advice about how to keep themselves safe online. Of course, this may be part of a wider issue, that some young people who are considered to be so-called 'vulnerable' off-line are also vulnerable online. Further research is needed to explore these issues.

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Tackling youth crime: exploring technological solutions to enhance youth engagement and promote social inclusion

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Abstract. Youth crime, social inclusion, and engagement of marginalized youth remain key challenges for those in the field of youth justice. Increasingly there is growing interest in the role of social capital development in addressing this challenge. Given the paucity of research into social computing and marginalized youth, this paper proposes that the identification and development of technologies may help develop social capital and deliver significant benefits in this domain. In reporting from a review of the extant literature, and from findings from a participatory methodological design adopted in a feasibility study with key stakeholders, the paper outlines two groupings of technologies that have the potential to create positive engagement with young offenders.

Keywords: Social Capital, Social computing, Virtual Worlds, CRM, Youth Justice, Young Offenders

1 Introduction

Youth crime, social inclusion and engagement of marginalized youth remain a key policy challenge. Increasingly there is growing interest in the role of social capital development in addressing this challenge. This paper therefore proposes that the identification and development of technologies that can help develop social capital presents significant benefits. In reporting findings from a participatory methodological design with key stakeholders, the paper outlines two groupings of technologies that have the potential to create positive engagement with young offenders.

Within this broad context, our principal contribution in this paper is the following: Firstly, the case for social capital building through the use of technology; secondly, we propose the importance of a participatory research design with the key stakeholders who will be the end users of the social technology; and thirdly we document two types of technologies that may prove to be effective in engaging with marginalized youth.

2 The case for social capital building with young offenders

Current research evidence suggests that engagement with young offenders to help towards desistance, prevent recidivism and promote social inclusion remains a key challenge for public policy and youth justice service providers [1]. Other indications include poor levels of engagement in education, training or employment and high rates of recidivism among young people leaving custody and on community orders [2]. Moreover, young people caught up in the youth justice system are likely to demonstrate weak family, community and neighbourhood networks and are particularly susceptible to becoming part of the so-called 'NEET Generation' – not in education, employment and training [3].

There is considerable and growing interest both nationally and internationally in social capital and young people. Social capital is broadly conceptualised as 'the values that people hold and the resources that they can access, which both result in and are the result of collective and socially negotiated ties and relationships' [4]. Some writers have emphasised reciprocity, trust and cooperation [5, 6], whilst others have expressed concern about social injustice and inequality [7 8]. The functionality of social capital through relationships ensures the effectiveness of the sharing of information and knowledge, and the ways in which self-efficacy and social networks can be enhanced for the purposes of support, social belongingness, and social and cultural identity.

Government policy in the UK is particularly concerned about building social capital to promote youth transitions to adult life, and to prevent social exclusion. However, there are key challenges around youth engagement, and the building and maintenance of social capital and interventions that give serious attention to 'lifestyle' issues [9]. Increasingly, technology has been seen as an important mechanism for building social capital and recent advances in internet technology are particularly significant. For example the use of social network sites such as Facebook or MySpace has been viewed through the social capital lens [10]. No work exists on the exploration of the use of such sites by young offenders in social capital building. In particular, the technologies proposed in this study for social capital building and therefore engagement have had relatively little field research.

Given this context, this paper's key hypothesis rests with the notion that social inclusion can be addressed by providing technology-based solutions that will enhance and develop social capital for and with young offenders. The question is what technologies are best suited for social capital development?

3 Study aims and methodology

For the purpose of this feasibility study, we identified the following aims:

- Identification of current use of technology within the specified domain

- An understanding of the 'technical capital' of young offenders (that is technical access, use, knowledge and expertise), and how this can contribute to the building of 'moral' (being a 'good' person), and social capital of these young people
- An identification of the perceived technologies considered appropriate and best suited for this particular section of the community.

Operating within the framework of social capital building, our methodological design entailed:

- A review of the extant literature on use of digital technology with youth at risk
- A review of youth offending data collection assessment forms such as ASSET
- Interviews and focus group discussions
- Observational participation in one youth offending team.

The empirical data collection involved a participatory methodological approach involving 1-1 interviews and focus group discussions with key stakeholders. These comprised personnel in multi-disciplinary youth offending teams and ranged from service managers, case managers to health workers. A total of three youth offending teams were selected representing diverse areas including rural England, inner-city multi-racial London, and outer London.

4 Findings

Based on the literature review, our experience from another similar inter-disciplinary project [11], and our consultation with youth justice stakeholders, this section reports on 2 key areas. Firstly, a brief account is given of the current technology usage in the youth justice domain; and secondly we explore potential technology options in direct engagement with young offenders.

Current technology usage in the youth justice domain

Successful identification of appropriate technology is crucial to achieving the transformational impact being sought. UK Digital Landscape Report [12] argues that it is crucial that young people are prevented from becoming further disadvantaged as technology becomes more prevalent. From the report, four key areas are identified:

- Transforming government services to better suit the needs of marginalized youth. Here the main concern is infrastructure and the key aim is to improve access to relevant and timely information; better sharing of information between service providers and providing facilities to offer front-line staff dealing directly with marginalized youth.
- Support policy targeted at addressing social exclusion: The use of multi-disciplinary approaches to design policies that make appropriate use of technologies - for example – healthy eating managed on-line or via the phone.

- Preventing young people from becoming more disadvantaged as technology becomes more prevalent.
- Helping young people to address their priority needs. ICT that will help young people improve their attitudes, skills, knowledge and inter-personal abilities so that they are able to become self-sufficient.

It is possible to observe activity in each of these broad separate areas even though there is significant overlap between them. Within the youth justice system, the use of technology has largely focused on surveillance and supporting organizational structures and processes [13]. Firstly, technology has been applied in managing recidivism by "tagging" and the use of location-aware GPS technology for tracking young offenders. Secondly it is being used in managing and optimizing information needs of various stakeholders by the development of a range of information systems (IS) for sharing and integrating data about young people. Neither of these uses are aimed at using technology for addressing the expressed needs and concerns of excluded groups and neither is focused on a ***positive*** and direct ***engagement*** with young offenders. For example, the IS systems are designed *for* youth justice workers, to hold information *about* young offenders; the information on the systems is not routinely shared with the young people themselves [14].

In explaining about the current use of technology, one service manager from a youth offending team commented –

…practitioners…have really only experienced IT in terms of inputting to client/management information systems and the receipt of performance information. Often this has been viewed as bureaucracy that detracts from their direct work with young people.

In considering what may prove to be useful and effective in undertaking direct work with young offenders, we report below possible technological solutions that could be developed to tackle social exclusion and marginalisation.

Potential social computing technology options in direct engagement with young offenders

Social computing – the empowerment of users is seen to be crucial factor for growth of the digital economy [15]. Social computing is steered by users and includes so-called web 2.0 features such as blogging, collaborative content, social networking and on-line application co-participation exploiting internet connectivity to support the networking of people and content. Of these, social network sites such as Facebook are seen as an archetypal norm. Social computing has taken on new possibilities with the advent of opening access to the social network sites with the introduction of APIs (application program interfaces) to allow the development of applications that are integrated with social network sites. Such technologies open new possibilities for developing social computing applications for excluded groups for despite their exclusion characteristics these same groups are significant users of mobile phones [16]. In the words of one caseworker:

Most of our young people have a mobile phone. Some of them have several…(laughter). I have a work phone and I do use it to text young people to remind them of appointments...

The role of social software applications (and so social computing) is seen as an important element in the development of social capital for excluded groups. Once basic digital inclusion is achieved (i.e. basic access) then social computing can itself contribute to enhancing users' social capital through the use of social networks [17]. However there is limited evidence about the use of social computing by socially excluded people and, even more so, about its effects [17].

When social software and mobile technologies are combined with Customer Relationship Management (CRM) systems a significant and powerful technology ecology emerges. Customer Relationship Management (CRM) are the set of processes and technology that an organization uses to track, organize and manage information about its contacts with prospective and current customers. Such information can be used to improve service offerings to customers and for targeted campaigns for product and services marketing [18]. A CRM system allows an organized and structured way of providing a single, unified existence of customer information from which all required information needs are derived.

Scenario: CRM, mobile devices and social software

In this scenario, we envisage a bespoke social software platform perhaps based on Elgg or use the API supplied with Facebook to create a protected, private community on Facebook. The virtual community will provide useful information for young offenders such as youth clubs, entertainment, sports activities and even relevant transport information. Members of this social network will be encouraged to share and utilize information with the aim of developing both bridging (links with those who are similar to oneself) and bonding (links with those who are different to oneself) social capital. Evaluation of the use of this platform will generate research data with respect to building of social capital. Access to portable information could help raise understanding and awareness, act as a useful resource and help promote communication in 'bridging and bonding' social relationships. One practitioner highlighted the empowering benefits of delivering knowledge and information via technology:

I am a health worker and I carry out health checks, and give information about various things. But to be honest, I think many of the leaflets I give go straight in the bin. So, if this kind of information could be given in a different format…such as a website and through texts…in a way that young people can relate to…I think that would be incredibly empowering…

The social software platform may be integrated with an open source CRM system and externally provided SMS texting service to support text-based communication between the YOT worker and young person.

One usage scenario is described here: A young offender is introduced to a YOT – on introduction – some personal information is collected such as music and sport interests. Key live information such as court dates, meetings with other service providers is also noted. Much of the information collated by the YOTs, for example,

in comprehensive assessment forms such as the ASSET could be an invaluable source for building such a technological platform. Given such a CRM framework, the young person is directed to using the social software where they are encouraged to use the tool and by the provision of "apps" that help develop meta-skills such as moral reasoning and consequential thinking. The YOT professional keeps in touch via the social software platform and automated texts sent to the young person's phone. Information sent can for example include court meeting reminders or simply friendly texts. Such regular interventions can be automated by technology and will therefore not create a significant burden. In our early discussions with YOTS there was anecdotal evidence that simple CRM based engagement using automated texts sent to mobile phones owned by young offenders was increasing (Coventry Youth Offending Team, Personal communication).

Virtual Worlds

Virtual worlds are becoming increasingly popular and have been applied in diverse disciplines including Sociology. Virtual Worlds such as Second Life (http://www.secondlife.com) are labeled as multi-user virtual environments (MUVES) and in 2008 supported almost 12 million unique accounts. This growth is attributed to the high quality graphics visualizations, animations, role-playing opportunities and social communities, which make them attractive to users and researchers. For example the social constructions in these environments (such as an alternative economy) allow users to engage in immersive game-like environments using in-world avatars. There are other benefits too - as noted as recently in the Observer newspaper [19], "*A virtual world is a tremendous leveller in terms of wealth, age, appearance and such like….* ". Further, Chatfield states games are "*arguably the most powerful models we have for connecting and motivating and understanding those vast disparate groups…*". Castranova observes that Second Life offers opportunities to examine important questions in the social sciences. Indeed he suggests that such environments are "social science research tools on the scale of the supercolliders used by physicists" [20]. One such example is the Core Connex project in Scotland, funded by the European Structural Fund – this project seeks to provide young people with information on employment and training opportunities through the use of a variant of Second Life [21].

Related to virtual worlds are technologies around the use of serious games. The term "serious game" refers to the use of games platforms normally found on console / arcade games for the consumer market but instead are targeted at a non-entertainment market such as psychological therapy and social education such as conflict resolution. While serious games are now recognized as having a potentially important role to creating social impact – "*More robust/ controlled research is required to measure this impact*" [22]. It is notable that very little use of such technology exists in the field of Youth Justice – one such project – DeadEnds [23] a game that explored the impact of knife-crime is no longer available and evidence of its efficacy is not available in the public domain.

One Service manager commented that it would be useful to explore how modern communication technologies can help intervene in the lives of young offenders, for

example by 'using serious games to explore moral reasoning and consequential thinking'. A serious game platform could provide contextual local virtual worlds through which scenarios detailing: reasoning, consequences of decisions, and choice could be explored through mediated avatars adopted by both the YOTs workers and the young offender.

It is useful to postulate how technologies outlined above measure up to the four dimensions of possible avenues of ICT contribution. Figure 1 below proposes the nature of contribution for both the social computing and virtual worlds approach. Social computing directly addresses needs by providing immediate and useful information to young offenders via the phone, for example: court dates. The social software platform also enables the development and management of relationships. Virtual worlds on the other hand allow the construction of scenarios that young people can engage with that directly support the development of morals and decision making in a safe environment. Both approaches do not place a great emphasis on infrastructure needs, which has been the focus of most ICT initiatives as discussed earlier.

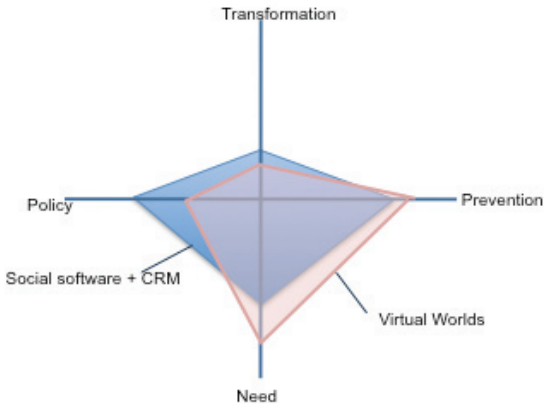

Figure 1 Selected technologies and their main contribution areas

Regardless of the technology, any successful deployment of technology with such a marginal and challenging group must have at its heart – notions of co-design - a systems process that deploys a creative mix of methodological techniques to construct a shared understanding of the problem domain by assigning user groups as first-class members of a multidisciplinary design team. Research evidence of the experiences of implementations of such a participatory design approach with these groups remains mostly elusive but a necessary challenge and requirement.

5 Conclusion

Addressing social inclusion of young offenders by supporting social capital building through technologies is challenging - both in the identification of the appropriate technology and also in the approach to its use. We have proposed that two

groupings of technologies have the potential to support such activity: Social software and its integration with mobile devices and CRM; and secondly the use of virtual worlds. For both types of technologies we suggest that empirical evaluation in their use for social capital building is an important research agenda. Critically though, we argue that such technological deployments and evaluations can only be achieved through the use of appropriate design methods and we propose a research agenda that also considers the development and refinement of research methodologies that adopt participatory principles.

We suggest that the role of social capital development through the use of technology is critical and will form the basis of future discussion. Thus the agenda for UK and EU policy and research needs to be better refined to allow the collection of evidence to check the validity of the use of technology.

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Youngsters and their mediated bedrooms: a socio-demographic analysis of differences in ownership and use of new information technologies

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Abstract. In this paper we empirically explore the relation between socio-demographic and socio-economic variables of Flemish youngsters and their ownership and use of new media technologies. Results from a latent cluster analysis on a representative sample of 1725 secondary school students in Flanders indicate the existence of three media adoption and usage clusters: the 'media-rich bedroom' cluster consisting predominantly of males, the 'media-rich environment' cluster with a majority of adolescents from the ASO education type and the 'relatively media-poor environment' cluster consisting predominantly out of females. Our results confirm earlier research indicating a persisting gender gap: girls still seem to have relatively less access to media technologies. However, our analysis also disconfirms the common belief that teenagers in technical and vocational education are more access deprived than adolescents attending general education.

Keywords: Teenagers, Domestication, New media, ICT

1 Introduction

Today's youngsters are part of the first generation ever to natively speak the digital language of the Internet and digital technology in general. Analogue to the WWW (moving from a 'Web 1.0' to a 'Web 2.0' paradigm) these adolescents are experiencing a phase of transition, struggling out to reach maturity. Teenagers reflect upon who they are, what they stand for and where they are heading. At the same time adolescents get more detached from their parents, increasingly make decisions of their own and become emotionally independent [1].

Young adolescents are also keen on their privacy, on having a space of their own. Livingstone [2] notices an emerging bedroom culture in which new information technologies such as computers and the Internet are largely domesticated and often at the immediate and private disposal of youngsters.

Very often, discourse on teenagers' appropriation of ICT has an optimistic undertone. Teenagers are described as digital natives [3], as part of a Net-Generation [4, 5] or as a Playstation-Generation [6]. However, there are some cracks in this story: several authors argue that teenagers strongly differ in their skills and critical attitude to benefit fully and safely from today's Internet expressive affordances [7, 8, 9].

Some authors for example, reported that online females are more likely to contribute narrative content (e.g. comments) or media content (e.g. videoclips) than online male [10, 11]. Other authors found that children in lower socio-economic schools spend more time on the Internet than those in higher socio-economic schools [12], or that children from low SES backgrounds are more likely to choose the computer when they want to learn something new than children from working and middle SES backgrounds [13].

Flemish adolescents' use of mass media differs significantly by gender, family life, socio-economic status and education, according to recent studies [6, 14]. Thus, in this paper we want to empirically explore the relations between socio-demographic and socio-economic variables of Flemish youngsters and their ownership and use of new mediatechnologies (with a focus on computers and the Internet). With regard to socio-economic status (SES), our analysis is founded on the education types available in Flanders (vocational education (BSO), technical education (TSO) and general education (ASO)) as it is commonly accepted that this measure is highly indicative for job prospects, access to higher learning and, indirectly, the socio-economic status.

2 Theory

This paper fits into a domestication approach which describes how new technologies are 'tamed' or appropriated by its users and how these technologies obtain symbolic meanings. Afterall, technology is not only determined by those who design it; users also play a pivotal role as they fit technology into their everyday praxis [15, 16]. Domestication is "akin to the domestication of the wild animal" [17], involving processes of bringing a technology into the home and adopting it to everyday life. Domestication is not a one-way process; rather, it must be understood in various sociocultural contexts. Thus, domestication looks beyond the adoption and use of technologies to ask what they mean to people, how they experience them and what roles they have come to play in people's lives [18].

Silverstone and Haddon [16] identified three related dimensions in the domestication process: commodification, appropriation and conversion. Commodification refers to an essentially commercial process through which technologies enter the public domain in the form of products. During appropriation a technology is objectified by its users into a comfortable physical and discursive space. Conversion refers to consumer attempts to legitimate the appropriation by re-entering the public domain. In domestication theory, the concept of a double articulation emphasizes that media technologies are both objects and conveyers of messages [19].

Thus media use becomes a complex interplay of media technologies, media content and the context in which both are combined. In our paper, we will look into this matter by investigating the variety of media technologies used by Flemish teenagers.

3 Methodology

We gathered our data using a large-scale quantitative survey. Twelve Flemish secondary schools agreed to collaborate in our research. These schools, selected to reflect the diversity in education types, agreed to allocate class time to let their pupils fill out the computer-based questionnaire. A total of 1725 Flemish secondary school pupils participated (Mage = 15.24, SDage = 1.85; 49% Female, 51% Male).

After data cleaning, a three-dimensional weighing procedure was applied to correct the sample for gender, grade and education type. As such, the analyzed dataset resembles the Flemish secondary school population [20].

The questionnaire comprised questions regarding socio-demographics and adoption and usage of media (technologies) such as television, game consoles, mobile devices and computers. The survey data were analyzed using the SPSS 15 and Latent Gold 4.5 software packages.

4 Results

In order to grasp teenage media technology ownership, media use and context of use, a latent class analysis was performed on the survey data. This statistical technique allows for the discovery of unobserved sub groups within a given set of categorical variables [21]. Such an approach offers a profound insight into latent structure of technology ownership, media use and context, rather than analyzing the data with manifest dependent variables. For that reason, it affords a detailed and comprehensive view on this complex matter.

In our study, a three-class model yields an excellent model fit (L^2 (1686) = 1463.19, p = 1, Npar = 39, BIC = 21401.95). In the following paragraphs we briefly describe these clusters, which significantly differ for age (F(2, 1722) = 30.88, p < .001, partial η^2 = .04) and gender ($\chi^2(2) = 218.21$, $p < .001$).

The first cluster is made up by teenagers with a *media-rich bedroom* (67% Males, Mage = 15.27, SD = 1.88). This group is characterized by relatively high weekly frequencies of watching television, gaming and use of the Internet. Moreover, these teenagers share high probabilities of having these media technologies available at their personal bedrooms. Also, we notice very high probabilities of having cell phones and other mobile devices such a mobile game console or an MP3 player.

The second cluster of teenagers comprises of teenagers with a *media-rich environment* (55% Males, Mage = 14.77, SD = 1.81). Although their media attendance and ownership closely resembles the one of the first class, it appears that the media technologies are located somewhere else than the bedroom (e.g. the living room or a study room).

The third cluster consists of teenagers with a *limited media environment* (75% Female, Mage = 15.64, SD = 1.74). In comparison with the two other clusters, this cluster is characterised by subtle differences in both media attendance and ownership. More specifically, watching television and especially playing video games occur far less frequent. Still, Internet usage only marginally differs. Finally, adolescents in this third cluster have very low probabilities of having a game console and have slightly

lower probabilities of having a mobile device, television or computer. Table 1 summerizes the main features for each of the discussed clusters.

Table 1. Three clusters: 'media-rich bedroom', 'media-rich environment' and 'limited media environment' (+ MP3/Mobile game devices, * $p < .05$, *** $p < .001$)

Teenagers with a…	**Media-rich bedroom**	**Media-rich environment**	**Limited media environment**	Wald	R^2
Cluster Size:	38%	32%	29%		
Indicators probabilities:					
Television frequency per week				29.41***	.03
0-15h TV	0.31	0.43	0.48		
16-20h TV	0.17	0.17	0.17		
20h+ TV	0.52	0.39	0.35		
Gaming frequency per week				50.67***	.30
0-2h gaming	0.27	0.46	0.95		
3-10h gaming	0.26	0.26	0.04		
10h+ gaming	0.47	0.29	0.00		
Internet frequency per week				80.44***	.09
0u-<10h	0.19	0.46	0.39		
10u-<16h	0.18	0.23	0.23		
16-<26h	0.26	0.18	0.21		
26h(+)	0.36	0.13	0.18		
Mobile device ownership+				43.95***	.04
No mobile device	0.03	0.09	0.17		
Mobile device	0.97	0.91	0.83		
Cell phone ownership				6.23*	.01
No cell phone	0.01	0.04	0.04		
Cell phone	0.99	0.96	0.96		
Television location				159.97***	.30
No TV	0.00	0.00	0.02		
TV at bedroom	0.79	0.15	0.36		
TV elsewhere	0.21	0.85	0.62		
Computer location				79.55***	.10

No PC	0.00	0.01	0.04		
PC at bedroom	0.60	0.23	0.44		
PC elsewhere	0.40	0.76	0.52		
Gaming console location				245.58***	.47
No game console	0.05	0.14	0.86		
Game console at bedroom	0.68	0.04	0.08		
Game console elsewhere	0.27	0.82	0.07		

Table 2 shows that adolescents belonging to the *media-rich environment* cluster are the youngest on average. In general, youngsters belonging to the *media-rich bedroom* cluster are older. Adolescents from the *limited media environment* cluster are the oldest on average.

The clusters also differ significantly with regards to gender and education types. Youngsters that belong to one of the *media-rich* clusters are more often boys; the *limited media environment* cluster is predominantly made up out of girls. Table 2 also shows that adolescents with a media-rich bedroom are most often to be found in TSO (39%). Young people with a media-rich environment or a limited media environment are most often found in ASO (54% and 43%).

Table 2. Socio-demographic variables for the total sample and the three clusters (*** $p < .001$)

	Sample	**Media-rich bedroom**	**Media-rich environment**	**Limited media environment**	**Sig.**
Age	14, 94	14, 93	14, 47	15, 46	***
Gender					***
Female	49%	33%	45%	75%	
Male	51%	67%	55%	25%	
Education Type					
A Stream	84%	78%	93%	80%	***
B Stream	16%	22%	7%	20%	
ASO	41%	31%	54%	43%	***
BSO	26%	30%	16%	28%	
TSO	33%	39%	29%	29%	

We noticed significant differences between the three clusters with regard to the usage of computers and the Internet. Table 3 shows that computers are used more often for social or leisure activities than for information retrieval or educational purposes. Table 3 also shows that teenagers with a media-rich bedroom engage in multimedia activities more often than adolescents from the other clusters. Youngsters with a media-rich environment or a limited media environment report higher rates of instrumental use of the computer (homework or information retrieval). A closer look

at the use of computers for homework shows no differences between A-stream and B-stream. However, we noticed differences between education types: youngsters from BSO use the computer less frequently to do their homework (43%) compared to adolescents in TSO (72%) or ASO (75%).

Table 3. Computer use for the sample and the three clusters (* $p < .05$, ** $p < .01$, *** $p < .001$)

	Sample	Media-rich bedroom	Media-rich environment	Limited media environment	Sig.
Mail	74%	75%	72%	77%	n.s.
Chat	83%	86%	80%	81%	*
Blogs	37%	40%	35%	37%	n.s.
Homework	61%	56%	63%	68%	***
Information Search	75%	74%	77%	75%	n.s.
Listen to music	86%	89%	82%	85%	**
Listen to radio	19%	22%	18%	16%	n.s.
Download podcast	20%	26%	17%	16%	***
Look at video	77%	85%	76%	67%	***

5 Discussion and conclusion

Results from our latent cluster analysis on a representative sample of 1725 secondary school students in Flanders indicate the existence of three distinguished media adoption and usage clusters.

The *media-rich bedroom* cluster groups teenagers with high odds of having a television, computer and game console at their bedrooms. This cluster comprises 67% boys, while it is equally distributed over all three education types. The second cluster consists of adolescents who live in a *media-rich environment*, despite having bedrooms that are far less often furnished with media technologies such as computers, television, etc. The majority of this group attends general education, while 55% of them are male. The third and last cluster represents teenagers who live in a *relatively media-poor environment*. In comparison with the media-rich clusters, they generally share smaller chances of having media technologies at their (private) disposal. This cluster is predominantly female (75%), while 43% attends general education.

On the one hand, our results confirm earlier research indicating girls to have relatively less access to media technologies. We can conclude that a gender gap is persisting, notwithstanding many claims in both literature and popular press unanimously portraying teenagers as digital natives and as part of a Net- or Playstation-Generation. On the other hand, our results disconfirm the common belief that adolescents in technical (TSO) and vocational (BSO) education are more access

deprived than their counterparts attending general (ASO) education. The latter raises questions regarding the influence of education on ICT ownership.

Summarizing, this paper states that socio-economic variables still are of major importance for describing differences in access to and use of new media technologies. However, generally accepted assumptions with regard to the influence of these 'traditional' variables should be critically reviewed in order to get a profound understanding of the impact of ICT on the everyday life of youngsters.

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Social Media and Vulnerable Young People's Participation UK, Devon County Council:

Katie Bacon

Abstract. Social media platforms create dynamic, variable and constantly evolving environments to engage with vulnerable young people and enable their participation in local issues/services.
Katie Bacon a qualified and an experienced youth worker, who has pioneered models of online youth work and youth engagement with a diverse range of vulnerable young people's groups in the UK, DevonCounty Council as a Participation Worker. Bacon has been researching and developing methodologies and polices in the practical application of online social media platforms & social networking to engage vulnerable young people about local issues.

Keywords. Participation Practical Application

Social media can amplify the positives and negatives of everyday life for young people, and can expose them to new opportunities and new risks. There are undoubtedly both positive and negative aspects to social media platforms, but whatever our views Youth Professionals need to understand the online activities and environments young people are engaging with. This means exploring how to support young people as they engage in these environments and how the creative use of social media and social networking platforms can be embraced to enhance the delivery of young people service(s). Working collaboratively with young people there is an opportunity to explore how to enable and promote young peoples participation and to advocate their views and needs to local/national adult decision makers.

Social media platforms create dynamic, variable and constantly evolving environments to engage with young people and enable their participation in local issues/services. Online digital media offers new tools which enable young people to move from consumer to creators of content and the Internet gives access to a wealth of free content that can be used in work creatively with young people. The different means of digital communication, from groups on social network sites, to instant messenger chats, can support new forms of dialogue between young people and more importantly between young people and youth practitioners. The opportunities for positive use of social media by practitioners working with young people are almost unlimited – providing practitioners think carefully about how to make their engagement with social media safe, sustainable and effective.

Bacon is a qualified and an experienced youth worker, who has pioneered models of online youth work and youth engagement with a diverse range of vulnerable young people's groups in Devon County Council as a Participation Worker for Vulnerable Groups. Working in partnership with Tim Davies who is a specialist in social media, youth participation and online social networking. Bacon has been researching and developing methodologies and polices in the practical application of online social media platforms & social networking to engage young people about local issues. The work has

successfully engaged and enabled vulnerable groups of young people from across Devon (rural & urban areas) to express their views online and participate with local decision makers in Devon to contribute to the delivery of Devon Children' Trust; Children & Young Peoples plan. Devon Children's Trust is a partnership of public and voluntary sector organizations working together to meet the needs of children and families. Other projects Bacon has pioneered include:

Devon Youth Parliament: creatively integrating social media platforms to promote opportunities for young people to engage with local youth elections, maintain communication, participation, exchange of information. Particularly for vulnerable young people views to be heard, acknowledge and included in election manifestos and annual youth consultations.

Young parents; meeting with young parents across Devon and utilizing social media platforms to maintain communication, participation, exchange of information while continually cultivating a working relationships to support them to participate in the recruitment and selection of senior parenting practitioner/decision makers also the development of local parenting strategy polices.

Geturvoiceheard young peoples group - Group of vulnerable young people whom have been commissioned by Devon County Council to be young researchers to gain the views of young people in an urban area about current and future youth services. Group members have creatively utilized social media platforms to maintain communication, disseminate reports and information to other vulnerable young people through various digital formats; film clips, photos and reports.

As in all areas of life, young people, youth professionals and mangers have different requirements and needs of digital media and the wider online world. Different approaches will be required to work with different individuals and groups at different times. Integrating social media within youth professionals practice when working with vulnerable young people requires dissemination of examples of good online practice, risk assessment, online safety and a consideration of young peoples views when creating strategy planning and delivery. Bacon has been proactive in sharing good examples of practice, promoting learning opportunities and advocating the need for online youth engagement to senior youth managers and ICT department at Devon County Council and other youth organization across the UK:

Bacon has collated learnings, articles, polices, web pages and uploaded to share with other youth professionals at www.katiebacon.co.uk. Bacon has co developed several social media training courses for youth professionals/managers and young people. These courses are currently being assessed by Open College Network for national professional accreditation.

1 day social media Training for Youth Professionals summary:

- Explore how social media, and specifically social networking, tools could be used by youth professionals in engaging with young people, parents and supporters;

- Develop an understanding of a range of social media and social networking tools through hands- on experience and activities;
- Identify key issues of ethics and safety for work with young people on social network sites, and explore possible responses;
- Identify specific pilot projects where social media and social networking could be used;
- Develop a draft plan for engaging practically and strategically with social media and social networking

Feedback from participants:

"I'm not on any social media site as I feel too old but after today I feel inspired to explore and learn more and can really see the potential of communicating with young people online, their already online anyway and we as an organization need to support young people to make safe informed choices while online" Participant from London training workshop, AFASIC support group

"It was very accessible for someone like me who has no experience of social network sites. I can also begin to think about introducing it to colleagues/manager and how to use it to increase communication with clients." Participant from London training workshop, East London Youth Project Worker

Bacon has co-written a training guide 'Practical guide for youth practitioners in utilizing social media with young people to supplement the training course.

Bacon has also planned and co-organized a digital conference Connected Generation 2010 for youth professionals and senior managers at Bristol Watershed. For more information please check hyperlink:
http://connectedgeneration10.eventbrite.com/

Bacon is currently preparing a research proposal to explore with young people and youth professionals *How youth professional should interact/communicate/engage with vulnerable young people online through social media platforms*.

While also exploring the issues of eSafeguarding/ informed consent/ interpreting online dialogue/ how to display positive unconditional regard and empathy.

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